The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 646.—Vol. XVIII. LONDON, SATURDAY, JANUARY 8, 1848. [Price 6d.

Stannaries of Cornwall—In the Vice-Warden's Court.

HODGE *v.* KIRKMAN.

WHEREAS the VICE-WARDEN did, by an ORDER, or DECREE, made in the above-mentioned cause, and bearing date the 6th day of December last, Order and Decree that a SALE be made of the ORES and HALVANS, (and if necessary) the ENGINES, MACHINERY, and MATERIALS, upon and belonging to ALVIGGAN MINE, in the parishes of ST. STEPHENS, in Branwell, and ST. MEWAN, within the said Stannaries, under the direction of the Registrar of the Court; and that the proceeds of such sale should be applied by the said Registrar in the manner directed by the same Order or Decree.

Notice is hereby given, that, pursuant to the said Order or Decree, a PUBLIC AUCTION will be HOLDEN at ALVIGGAN MINE aforesaid, on Wednesday, the 19th day of January inst., and following day, at Eleven o'clock in the forenoon of each day, for SELLING, either together or in lots, the under-mentioned

MINING MACHINERY AND MATERIALS—viz.:

ONE STEAM-ENGINE, 36-inch cylinder (8 feet stroke in the shaft); one boiler, about 9 tons, with 4 fathoms of iron rod.

ONE 10½-inch cylinder STEAM STAMPING ENGINE, with 24-heads of stamps, boiler, and two axles and frames.

WATER-WHEEL, 11 feet diameter and 16 inches abreast, with iron axle.

Shears, 6 and 5½-inch whim-ropes, ¾-inch and ⅝-inch chain, about 50 fathoms of 10, 9, and 4-inch pumps, with doorpieces, windbores, washing barrels, 2 horse-whims, several fathoms of flat and connection-rods, launders, ladders, 2 Brenton's patent frames with separators, iron winch, 3 iron pulley blocks, iron kibbles, weighing machine, main engine, racks, buddles, kieves, wheel and hand-barrows, launders and trunks, racking tools, 1 36-inch smith's bellows, 2 anvils, vice, smith's crane, screwing stock, taps and plates, smiths' and miners' tools, grinding stone, several tons of new and old wrought and cast-iron, a quantity of useful new and old timber, carpenter's bench, several wood erections, dial and stand, brass measuring chain, a small quantity of tin and tinstuff, tin sacks, and other useful materials, with the ACCOUNT-HOUSE FURNITURE.

For viewing the same, application may be made to Mr. M. Teague, on the mine; and for further particulars (if by letter, pre-paid) to Mr. H. S. Stokes, solicitor, Truro.

Dated Registrar's Office, Truro, the 5th day of January, 1848.

VALUABLE MINING MATERIALS FOR SALE, BY PRIVATE CONTRACT, at TING-TANG CONSOLS MINE, in the parish of GWENNAP—consisting of a 60 and 100-inch combined cylinder STEAM-ENGINE, 9-ft. stroke in cylinder, and 8½-feet in shaft, with three boilers, about 33 tons, which may be sold together or separately, capstan and shears, and large balance-bob, complete.

1 16, 18 15, 2 10, and 1 9-inch pumps; 1 15, 1 12, and 1 9-inch working barrels, 2 15-inch plunger-poles, 11 and 10 feet long; 1 16 and 1 15-inch pole cases. 1 15, 1 14, & 1 10-inch stuffing-boxes and glands; 3 15, 3 14, & 1 12-inch windbores. 3 16, 1 15, and 2 14-inch doorpieces and doors; 1 17, 1 15, and 1 10-inch H-pieces. Brass seatings and clacks; 2 pairs of large yokes.

To treat for the same, apply to Captain Henry Crowgey, on the mine; Capt. Richards, Redruth; or to Mr. Clyma or Mr. Edsall, Truro.

Dated Ting Tang Mine, Jan. 5, 1848.

VALUABLE PUMPING AND WINDING ENGINES FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, at WHEAL VOR MINE, in the parish of BREAGE, CORNWALL—

1 80-inch DRAUGHT ENGINE, 10-feet stroke in cylinder, and 8 feet in shaft, main beam and caps, top nozzle, spring piston and rod—all new this year; with four boilers, of 12 tons each, in excellent repair.

1 80-inch DITTO, 10 feet stroke in cylinder, 7½ feet in shaft, cylinder, pistoa, bottom and cover, nearly new, with two boilers, of 12 tons each, and three boilers, of 10 tons each, all lately thoroughly repaired.

1 49-inch DITTO, 9 feet stroke in cylinder, and 7 feet in shaft, without boilers.

1 20-inch WINDING ENGINE, 5 feet stroke, with two boilers, of 4 and 6 tons, and vertical cage, all in complete repair—the boilers and some other parts nearly new.

1 18-inch DITTO, 4 ft. stroke, with one boiler, of 5 tons, and horizontal cage, complete.

Several TONS of straight and turned STEAM-PIPES.

3 12-head CAST-IRON STAMPS AXLES, with bearings, oak frames, &c., complete.

A powerful WEIGHING MACHINE, nearly new, comprising every requisite.

An immense number of PUMPS, matching-pieces and windbores, 12 to 17-inch bore, with working barrels, doorpieces, H-pieces, cases, with stuffing-boxes and glands to match, from 11 to 19 inches bore, and plunger-poles, from 12 to 19 diameter.

Faggotted rod and cap plates, 6, 7, and 8 inches wide, staples and glands, eyerunners, caps, saddles, troughs and gudgeons for balance and other bobs.

Application to be made to Capt. R. Blight, jun., on the mine.

Dated Nov. 29, 1847.

N.B.—The above are of easy transit to Hayle wharfs, and from thence on ship-board, if required.

TO COLLIERY OWNERS, IRONMASTERS, & OTHERS.—TO BE DISPOSED OF, BY PRIVATE CONTRACT, a LEASE of a COLLIERY, and about TWO HUNDRED ACRES of LAND, with the COLLIERY PLANT, situate in SOUTH WALES, on a line of railway communicating with a sea-port.

The estate is in the heart of the Great Anthracite District of South Wales, and abounds in anthracite coal, of the best quality, and also in iron mine; and is peculiarly well adapted for the site of blast-furnaces.

The land is let to respectable tenants, at rents which already go far to meet the dead rent of the whole; and, from the improvable nature of the property, they may be considerably increased.

The lease, which has 91 years to run, contains covenants very favourable to the lessee, and the royalties are unusually low.

Liberal terms will be afforded for the payment of the purchase-money.

For particulars apply to the following:—

London—Messrs. Clarke, Fynmore, and Fladgate, solicitors, Craven-street, Strand.
Swansea—W. P. Struvé, Esq.
Llanelly—E. E. D. Grove, Esq.
Birmingham—Messrs. E. and C. Robins and Co.

EAST TAMAR CONSOLIDATED MINES, AND SOUTH TAMAR UNITED MINES.

These COMPANIES having been DISSOLVED, and a committee having been appointed for the realisation of their assets, they are prepared to RECEIVE TENDERS for the PURCHASE of these MINES, together with the MACHINERY, MATERIALS, and HALVANS, as they stand, at the company's office, 51, Old Broad-street, on or before the 20th inst., where any further information may be obtained; or of the solicitors, Messrs. Coode, Browne, and Co., 13, Bedford-row, London.

These mines have been worked for about three years, and a capital of nearly £30,000 has been expended upon them; and the machinery and materials in place have been recently valued by an eminent engineer at £11,859. The most satisfactory account of the state and prospects of the mine, up to this time, may be seen on application at the office, as above. The companies for working these mines have been dissolved at a time when the further prosecution of them seemed peculiarly desirable. The rate of dues is 1-15th, and there is about 18 years unexpired of the lease.

All parties having claims on either of the above mines, are desired forthwith to send their accounts.—London, Jan. 6, 1848.

LAXEY MINES, ISLE OF MAN.—TO BE SOLD, BY PUBLIC AUCTION, by order of the Court of Chancery, at the instance of the Receiver of the assets of the Isle of Man Joint-Stock Banking Company, on Monday, the 31st of January 1848, at Twelve o'clock noon, in the Wellington Hall, Douglas, THREE SHARES, and FOUR-SEVENTHS of a SHARE, in the LAXEY MINES, carried on in the parish of Lonan, in this island.

These mines, which are held under lease from the Government, including the whole parish of Lonan, are well known to produce the richest ore in this island—the property in which is divided into 20 shares.

A large sum of money has been expended in improvements, and in the erection of new and substantial machinery, which are nearly completed, and by which the mine will be placed in a most efficient working state—superior, in every respect, to what it has ever previously been in. The average raisings of ore for the last 12 months have been 50 tons of lead, and 200 tons of black-jack, per month, which is, at least, one-third more than has been raised within any 12 months previous. The stock in hand is valued at upwards of £4000, to a proportionate share whereof the purchasers of the above shares will be entitled. —The mine can be seen upon application to Capt. Rowe, the manager, at the mines, who will give such information as may be required; and further particulars may be had from the Receiver.

SENHOUSE WILSON, Advocate, Douglas.

Isle of Man, Dec. 22, 1847.

AYRSHIRE.—TO BE LET, the COAL, IRONSTONE, and FIRE-CLAY, in the ESTATE of WATERHEAD, lying in the parish of NEW CUMNOCK, the property of Sir John Cathcart, Bart. This estate is in the vicinity of the Nithsdale Iron-Works, now being erected, on the one side, and of the Dalmellington Iron-Works, on the other; and it is believed the BLACK-BAND IRONSTONE, which is found in the estates of the Marquis of Bute, Craigangillan and Afton, adjoining, passes under about 1500 acres of Waterhead lands. There are also CLAY-BAND IRONSTONE and LIMESTONE in the property, and SMITHY COAL is now working within it. The Glasgow and Carlisle Railway, now in course of being made, passes within 3 miles of the lands.

There are various FIELDS of MINERALS in ESTATES adjoining, and in the near neighbourhood, now TO BE LET, so that any company, of skill and capital, would have ample scope for establishing iron-works on a large scale.

A plan of the estate, and general section of the minerals, with samples of the ironstone, will be seen on application to John Geddes, Esq., mining engineer, No. 49, Albany-street, Edinburgh; Arthur Campbell, W.S., No. 22, Dublin-street, Edinburgh; or Mr. Kennedy Brown, writer, Girvan—either of whom will receive offers for a lease.

Wm. Gemmell, residing at Meikiehill, on the estate, will point out the boundaries of it.

ADCOCK'S PATENT SPRAY PUMP.—This important INVENTION having been PERFECTED, and brought into SUCCESSFUL PRACTICAL OPERATION, the PATENTEE is ready to RECEIVE, and to execute, ORDERS.—Apply to Henry Adcock, C.E., at his offices, No. 3, Northumerland-street, Strand, London, where pamphlets, descriptive of the invention, may be had; at the office of the *Mining Journal*, 26, Fleet-street; and through any respectable bookseller—price 6d.

SCIENTIFIC TRAINING SCHOOL, HODDESDON, HERTS.—This institution, as a SCHOOL OF SCIENCE, is complete in every department; and to those destined for the Military Colleges, for the Colonies, for Mining, for Engineering, and Manufacturing, it will be found to combine every essential, at about one-half the usual cost. The TERM COMMENCES on the 29th JANUARY.

For full particulars, application may be made to the Head Master, at the institution, personally, or by letter.

SCIENTIFIC TRAINING SCHOOL, HODDESDON, HERTS.—ESTABLISHED FOR GENERAL AND SCIENTIFIC EDUCATION. The COURSE embraces the Classics, Mathematics, Modern and Oriental Languages, Natural and Experimental Philosophy, Mechanics, Botany, Geology, Drawing, Practical Surveying, Levelling and Draining in the Field, Practical Chemistry and Analysis in the Laboratory, Practical Agriculture on the Farm, and Lectures on the Breeds, Management, and Diseases of Cattle.

The Preparatory Examination, necessary for Students intended for the civil and military colleges, is guaranteed. The TERM COMMENCES on the 29th JANUARY.

Application for the admission of pupils, to be addressed to the Head Master, of whom any information may be obtained, personally, or by letter.

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton the 20th; and from Suez on or about the 10th of every month.

For rates of passage-money, plans of the steamers, and to secure passages, apply at the company's offices, 51, St. Mary Axe, London.

S. W. SILVER & CO., CLOTHIERS, NAVAL, MILITARY, and GENERAL OUTFITTERS and CONTRACTORS, respectfully acquaint the public, that they have completed the alterations at their warehouses, 66 and 67, CORNHILL, which enables them to concentrate and exhibit all the requirements of an OUTFIT. Being the manufacturers (with experienced managers) of the chief and most expensive portions of OUTFITS, they are enabled to produce and render them at WHOLESALE PRICES; thus preventing MILITARY and NAVAL OFFICERS, CADETS, and PASSENGERS, generally, sacrificing the usual intermediate profit. LADIES' OUTFITS (which are under the management of females) on similar terms.

SILVER and Co. having a correspondent in nearly every ENGLISH COLONY, their customers may at all times avail themselves of their assistance. SILVER and Co. pack and ship their customers' outfits, clear and warehouse their luggage homewards, procure and give SHIP-SAILING information, outwards or homewards, without receiving a commission for such business. *Moreover, they do not allow the too usual commission to persons who introduce customers to them*, that purchasers may derive every advantage. For example, individuals who are about to leave for India are generally inundated with applications and lists from outfitters, who obtain the name and address of the party going abroad from persons to whom they pay (if they supply the outfit), so large a commission for the information, as to materially increase the amount of the outfit. Now, SILVER and Co. never forward a list of necessaries to any one, unless directed to do so by the party (or friend) going abroad. Thus SILVER and Co's prices are not burthened with commission, because all recommendations to apply to them are pure and disinterested.

The OUTFITTING WHOLESALE and RETAIL CLOTHING DEPARTMENTS, &c., are at 66 and 67, CORNHILL, and at LIVERPOOL. The SHIRT DEPARTMENT, for home use, is at No. 10, CORNHILL. The WORKSHOPS for Clothing, at 4½, Bishopsgate-street Within; for SHIRTS and CABIN FURNITURE, at 33 and 34, Nassau-place, Commercial-road; and for SHIRTS, STAYS, BRACES, &c., at LANDPORT, near Portsmouth.

N.B.—Every description of clothing for male and female emigrants.

STRONG MIXING PIG-IRON.—The YSTALYFERA IRON COMPANY beg to solicit ORDERS for their ANTHRACITE PIG-IRON. This iron mixes well with Scotch pig—imparting to it strength and elasticity, and receiving from it a portion of its softness and fluidity. No. 3 Pig is recommended for mixing with soft iron—Nos. 1 and 2, for machinery castings, requiring great soundness and strength. At this period, when cast-iron is so much employed in the construction of bridges and other buildings, requiring all the strength and elasticity which the best mixture of metal will afford, it may be interesting to call attention to the characteristics of ANTHRACITE PIG-IRON, as REPORTED on by that great practical authority, the late DAVID MUSHET, Esq., M.I.C.E.:—

"It greatly exceeds, in *strength*, in *defective* powers, and capacity to resist *impact*, any iron at this time manufactured in the United Kingdom."

"It now only remains for me to mention a property peculiar to this iron, which was noticed at the time I made the trial experiments, four years ago, but which has been more fully developed in those more recently made. The property referred to is one of *great springiness*, or *elasticity*, which communicates a tendency to the bar, to deflecting and breaking, to resume its rectangular form. Bars that had obtained a permanent set of 2-10ths, when afterwards broken, presented but a slight deviation from a right line; and in no case, did the curvature exceed one-fourth of a tenth."

"It was also remarked, that most of the fractures, in breaking, presented a *regularity of grain* throughout, resembling the structure of *unhardened steel*."

Address THE YSTALYFERA IRON COMPANY,
Dated June 22, 1847. *Near NEATH, SOUTH WALES.*

HOT-BLAST WITHOUT COAL, LABOUR, OR REPAIRS. DIXON AND BUDD'S PATENTS.

Apply for particulars, or to inspect the process in operation on six blast-furnaces, to J. Palmer Budd, Esq., Ystalyfera Iron-Works, near Neath.

Dated June 22, 1847.

WHEAL CURTIS MINING COMPANY.—At an Ordinary General Meeting of the WHEAL CURTIS COPPER MINING COMPANY, held at the Guildhall Coffee-house, King-street, Cheapside, London, on Wednesday, the 5th day of January, 1848, pursuant to advertisement and circular,

M. STAPLEY, Esq., in the chair,

The notice convening the meeting, and the report of the directors, having been read, the following resolutions were unanimously passed:—

That the report, now read, be received and adopted, and ordered to be printed and circulated amongst the shareholders.

That the following gentlemen be re-elected as directors for the ensuing year—namely, Messrs. G. Pilkington, C. Deane, G. S. Evans, M. Stapley, R. Hallett, and J. T. Thatcher.

That Mr. H. W. Bull be elected a member of the board of direction.

That Messrs. G. F. Smith and W. Gibbs be elected as auditors for the ensuing year.

That this meeting pledge themselves to pay forthwith the amount due by them, in respect of the bonus shares; and, also, of the second instalment of the pending call, so as to enable the directors to carry forward their operations with increased vigour.

M. STAPLEY, Chairman.
GEO. A. JACOBS, Secretary.

Basinghall Chambers, Basinghall-street, Jan. 5, 1848.

WHEAL BARBARA MINING COMPANY.—At a Special General Meeting of the Adventurers in the Wheal Barbara Mine, held at the British Mining Offices, 41, Moorgate-street, on Friday, the 7th January, 1848,

D. DUTHOIT, Esq., in the chair,

The circular convening the meeting, as also the minutes of the meeting of the committee, held on the 24th December, were read. It was

Moved by Mr. Stickland, seconded by Mr. Chartres,

That the resignation of the committee, in accordance with a resolution passed on the 24th December, be accepted.

Moved by Mr. Molyneux, seconded by Mr. Lewis,

That the management of the affairs of the company be henceforth carried on at the offices in Manchester.

Moved by Mr. G. W. Blanch, seconded by Mr. Jas. Truscott,

That the following gentlemen, whose names were submitted to the meeting, and who had consented to act as members of the committee—Messrs. John Pearson, John Goldsboro, Francis Pershouse, Joseph Smith, and William Stagg, of Manchester—be appointed to act as the finance committee, in the room of the gentlemen who have retired.

Moved by Mr. Shearman, seconded by Mr. Stickland,

That the thanks of the adventurers be given to the late finance committee, for the services rendered by them, and their ready compliance with the wishes of the majority of adventurers, in removing the management of the affairs of the company, and resigning the trust reposed in them.

Moved by Mr. Lewis, seconded by Mr. Molyneux,

That Mr. N. Truscott having resigned his office as purser, the same be accepted; and that the thanks of the adventurers be given to that gentleman, for the very able services rendered by him in the performance of the several duties devolving on him.

Moved by Mr. D. L. Williams, seconded by Mr. Chartres,

That Mr. William Shearman be appointed as purser, in the room of Mr. N. Truscott, resigned.

Moved by Mr. Chartres, seconded by Mr. D. L. Williams,

That the books, papers, and all documents connected with the company, be handed over to Mr. Shearman, as the purser; and that all communications be addressed to that gentleman.

Moved by Mr. Blanch, seconded by Mr. Truscott,

That the preceding resolutions be advertised in the *Mining Journal*.

DAVID DUTHOIT, Chairman.

Moved by Mr. Shearman, seconded by Mr. Lewis,

That the thanks of the meeting be given to the chairman, for his able services.

N. TRUSCOTT.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,

23, *HAWLEY-ROAD, KENRISH TOWN, LONDON*,

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

RADSTOCK COAL-WORKS, SOMERSET.—Notice is hereby given, that, from and after the 31st December, 1847, the several PITS belonging to the said works—viz.: Ludlow's Pit, Middle Pit, Old Pit, Well's Way Pit, and Tyning's Pit, will be CARRIED ON by the Right Hon. the COUNTESS WALDEGRAVE, as the proprietor thereof.

CHARLES ASHMAN
(Mining Engineer and Mineral Surveyor), Manager.

Dated Clandown, near Radstock, Dec. 29, 1847.

FOR SALE, a 70-inch cylinder ENGINE, without boilers.—For price, and further particulars, please apply to Samuel Grose, Esq., engineer, Wall, Gwinear, Camborne.

STEAM-ENGINES.—From 8 to 20-horse power ENGINES ALWAYS IN STOCK.

Apply to Mr. CAPPER, Engine-Maker and Founder, BIRMINGHAM.

Price—£12 to £16; with boiler, £22 per horse.

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS.

MR. R. TREDINNICK, THREE KING'S COURT, *LOMBARD-STREET, LONDON*,

Continues to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously upon personal application.—MONEY ADVANCED upon the above securities.

JAMES LANE, MINING SHARE DEALER, 75, *OLD BROAD-STREET, LONDON*.

MONEY.—MESSRS. KILLICK & CO. (late WINSTANLEY, KILLICK, & Co.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged.

6, Bank Chambers, opposite the Bank of England.

NISTER DALE IRON COMPANY.—Notice is hereby given, that an EXTRAORDINARY GENERAL MEETING of the proprietors of shares in this company will be HELD at the office of the company, 10, Old Jewry Chambers, in the city of London, on Wednesday, the 12th day of January next, at One o'clock precisely.

Dec. 27, 1847. F. W. EMERSON, Clerk.

UNITED MEXICAN MINING ASSOCIATION.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of proprietors of this association will be HELD at the office of the company, No. 5, Finsbury-circus, on Wednesday, the 26th day of January inst., at One o'clock precisely.—The transfer books will be closed, as usual, on the evening of the 12th, and reopened on the 27th inst.

By order of a court of directors,
5, Finsbury-circus, London, Jan. 6, 1848. JOHN MATHER, Secretary.

WHEAL BARBARA MINING COMPANY.—Notice is hereby given, that the AFFAIRS of the COMPANY will be henceforth CONDUCTED at the OFFICES, 4, STAMP-OFFICE BUILDINGS, MANCHESTER, in pursuance of the resolutions passed at the special general meeting of adventurers, held, pursuant to notice, on the 7th January, 1848, where all communications are requested to be addressed, and information can be acquired. WILLIAM SHEARMAN, Purser.

CONSOLIDATED COPPER MINES OF COBRE ASSOCIATION.—At a Half-yearly General Meeting of the proprietors of this association, held at the offices of the company, 26, Austinfriars, the 3d day of January, 1848,

RUSSELL ELLICE, Esq. (chairman), in the chair,

The advertisement convening the meeting having been read, the following report was read:—

REPORT.

As the proprietors know, at this half-yearly general meeting, the directors are not enabled to lay an audited account of the year's transactions before them. The meeting is called for the purpose of laying before the proprietors a general statement of the position of the company, with a summary of the present state of the finances, and for the purpose of electing two directors and one auditor, in the room of those who go out by rotation.

The directors are happy to say, that the prospects at the mines continue good, though, from temporary and accidental causes, the results, since possession has been had of the Church ground, have not been so abundant in produce, nor so beneficial, as might reasonably have been expected. In the last report it was mentioned, that, though the sickness had disappeared, the labourers had not returned, and that the agents were raising 500 tons per month less ore than they otherwise would do; that state of things, the directors are sorry to say, continued to the month of October; but, in the last letters, dated in November, a considerable number of new hands had been obtained, with an expectation of a further addition—so that there is a prospect that, in a few months, there will be a material increase to the produce; in the meantime, the directors are happy to say, that though the quantity of ore raised to the 31st October, 1847, is only 160 tons more in 1847 than in 1846—being 13,607 tons up to that time—the quality of the ore being richer, and the price, in the beginning of 1847, having been better, the sales have yielded a larger profit, which enables the directors now to declare a dividend of 1*l.* per share, payable on and after the 13th inst.

It was not to be expected that this company should altogether escape the effects of the late monetary crisis—accordingly, the smelters have availed themselves of it to reduce the price of copper ore very materially, without any corresponding reduction having taken place in the price of copper; but for that circumstance, the dividend now declared would have been more considerable.

The directors still hope that the duty on copper ore, which is so onerous to this company, will be taken off; indeed, it is said that Ministers only plead the state of the revenue as an objection. As mentioned in a former report, the tendency of the duty is to cripple the copper trade generally—to deprive the country of the benefits from smelting foreign ores, and is highly unjust to the manufacturers, who are exposed to foreign competition in the home market.

The directors have to announce, that the threatened appeal to Madrid, in the Sanctuary suit, has not yet been carried there; and they hope, from what was mentioned in their last report, that the directors of the Santiago Company will see the propriety and prudence of desisting from its further prosecution; but should they persist in the appeal, your directors have no reason to dread the result.

The directors have every reason to be satisfied with the management of your agents at the mines, as well as the economy and prudence with which the expenditure is conducted.

At the close of this meeting a ballot will be held, for the election of two directors, in the room of Sir John Pirie, Bart., and George Whitmore, Esq., and one auditor, Alex. Druce, Esq., who go out by rotation, but, being re-eligible, are candidates for re-election.

It was then moved by the chairman, seconded, and carried unanimously,—

That the report, now read, be received and adopted.

Moved by Francis Mills, Esq., seconded by Mr. Rutley, and carried,—

That, should the board of directors deem it advisable, they have the authority of this meeting for proceeding with the establishment of smelting-works, or of experiments, where they may think proper.

Moved by J. Rigmaiden, Esq., seconded by J. Young, Esq., and carried unanimously,—

That the thanks of this meeting be given to the chairman and directors, for their able and zealous attention to the interests of the proprietors.

The ballot was then proceeded with, when Sir John Pirie, Bart., and Geo. Whitmore, Esq., were re-elected directors, and Alex. Druce, Esq., an auditor of the company.

CONSOLIDATED COPPER MINES OF COBRE ASSOCIATION.—Notice is hereby given, that a DIVIDEND of ONE POUND per share will be PAID to the holders of certificates in this company, at the office of the association, 26, Austinfriars, on and after the 13th January inst., between the hours of Eleven and Three o'clock. The proprietors are requested to leave their certificates at the office, for examination, three clear days before the day of payment.

By order of the court of directors,
26, Austinfriars, Jan. 3, 1848. WM. LECKIE, Secretary.

WHEAL COURTENAY COPPER MINE, ST. COLUMB MAJOR, CORNWALL.

BANKERS—Messrs. Willyams, Hodge, and Co., Truro.
SOLICITOR—Edward Lyne, Esq., Liskeard.

The above mine is held under a lease for 21 years, from Nov., 1846, subject to the 12th dish, as the dues to the lord of the manor, and is divided into 268 shares—12 of which are free shares.

Since the opening of the mine, about 30 tons of ore have been raised, and sold at the following prices—viz.: £9 9s., £10 18s., and £6 12s. per ton—thus establishing the value and quality of the ore.

Prospectuses, and further information, may be obtained on application to Mr. John Sutcliffe, 3, Bartholomew-lane, London.

Present Price of Shares.....£20

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the SAFEST, CHEAPEST, and most EXPEDITIOUS MODE of effecting this very hazardous operation. From many testimonies to its usefulness with which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.:—"I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this."

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Camborne, Cornwall.

ON THE INCRUSTATION OF STEAM BOILERS.

At a recent meeting of the Franklin Institute, Philadelphia, Prof. W. R. Johnson submitted a verbal statement of the result of an examination of the scales adhering to the interior of the boiler of the Government steamer, *W. L. Marcy*, presented at the last meeting of the institute. The specific gravity of these scales is 2·695; they are laminated and crystalline, with minute prismatic columns crossing the thickness of the deposit. The colour is nearly pure white; the side which appears to have been next to the metal is marked with small black specks, apparently of oxide of iron. Their hardness is such, as to allow of being scratched with the nail; but the side which adhered to the iron is perceptibly harder than the other. Acids produce on them no effervescence or other evidence of reaction. It had been stated, at the time these incrustations were presented to the institute, that the use of *ammonia* in the boiler had been found to obviate the difficulty arising from this deposit; doubts, however, had been expressed, whether the remedy were due to a true chemical reaction.

Presuming that, by *ammonia* was meant *sal-ammoniac*, some trials were made to determine the efficacy of that salt, in dissolving the scale, as compared with one or two other re-agents applicable to the same purpose. Having weighed 38 grains of the scale, in small fragments, but not pulverised, they were boiled for an hour, with 27 grains of chloride of ammonium (sal-ammoniac), in about 4 ozs. of distilled water, until no further effect appeared to be produced. The scales had become rather more friable than before, but their form and structure were unchanged.

The liquid, with the washings of the undissolved fragments, treated with chloride of barium, gave of ignited sulphate of baryta 4·05 grains, proving that about 1·39 grains of sulphuric acid had been already brought into solution. The undissolved scale, dried at 212°, was found to have lost 2·9 grains, or 7·6 per cent. As the scale had, at first, been weighed without drying, a small part of this loss is probably attributable to hygrometric moisture. The residue was next boiled in a solution of carbonate of potash—the resulting sediment separated, washed, dried, and heated a little below redness, and found to be completely soluble, with effervescence, in chloro-hydric, nitric, and acetic acids. The solid crystalline scale had, in fact, been converted into a pulpy or flocculent mass of carbonate of lime. The liquid which had been filtered from sulphate of baryta, after boiling with sal-ammoniac, having first been freed from excess of baryta, gave, with oxalate of ammonia, a copious precipitate, showing that *lime* had been dissolved. On the other hand, the liquid filtered from carbonate of lime, having been acidulated and boiled, gave, with chloride of barium, equally abundant proofs of the presence of *sulphuric acid*.

The foregoing trials prove that sal-ammoniac *is* capable of reacting chemically, to dissolve, in part, the incrustation; and carbonate of potash, to decompose without completely dissolving it—leaving, at least, carbonate of lime, insoluble, and capable, under certain circumstances, of still forming a scale. It having been thus made evident, that the incrustation is one of the sulphates of lime, and, by negative proofs, ascertained that the clean scale contains no other essential material, an analysis was performed, which resulted in showing that it belonged to the same species as the crystals formerly analysed by Prof. Johnston, of Durham, containing two equivalents of dry sulphate of lime to one equivalent of water; in other words, it was *di-hydrated* gypsum = $2CaO,SO_3 + HO$.

To prove more exactly the relation between the respective solvents, 10 grains of the scale, freed from dirt, were finely pulverised, heated to dull redness for 20 minutes, losing thereby 3 per cent. of water, and then boiled in three successive portions of a strong solution of sal-ammoniac. By this treatment, almost exactly *one-half* of the dried powder was found to have been dissolved. The remaining half was boiled with 20 grains of pure carbonate of potash, in 4 ozs. of distilled water, by which it was rendered completely soluble in chloro-hydric acid. Wood-ashes may probably be substituted for carbonate of potash, without serious inconvenience; and, to aid the decomposing power, as well as to give completely soluble compounds, acetic acid, or even common vinegar, may take the place of chloro-hydric acid.

To prove the utility of this solvent (the acetate of potassa), a quantity of acetic acid was slightly supersaturated with carbonate of potash, and a portion of the powdered scale was boiled in the solution for about one hour. A few light flocculent particles only remain undissolved, indicating a superior facility of decomposition, to that of chloride of ammonium, and yielding acetate of lime and sulphate of potassa, both soluble salts.

Besides the scale of the sea steamer, trial was made of one, similar in aspect, obtained some years ago from a stationary boiler used at or near the glass works of Mr. Bakewell, in Pittsburg. That scale had, likewise, a crystalline structure, with small transverse prisms. It had a dirty-white colour, was marked with black specks on the side which had adhered to the boiler, and was, without difficulty, scratched with the nail. It was not attacked by acid. When 19·8 grains were heated to bright redness, for more than an hour, the loss was ·55 grain, or 2·77 per cent. As the colour and lustre of this scale are less remarkable than that of the sea steamer, the sulphate of lime is doubtless contaminated with some earthy impurities, and probably with a little animal or vegetable matter; but the quantity of water expelled, clearly indicates that it belongs to the same class of hydrates as the sea-water scale. In fact, as it is known that a temperature of 300° expels the water from common gypsum, it is inconceivable that true *bi-hydrated* sulphate of lime should be formed within a vessel, in which prevails a temperature often above that limit. Two or three varieties of scale, from boilers using the water of the Schuylkill, were compared with those above described.

The first was from a boiler, used at Smith's factory, near Fairmount. The scale is dark grey, and in many parts almost black—it has a slight scent of animal oil. This odour became abundantly perceptible on heating to 400° or 500°; and the thick smoke, and strong smell of lamp-oil, leave no doubt as to the source of this impurity. Exposed for 10 minutes to a dull red head, in daylight, it lost 8·65 per cent., nearly the whole of which was organic matter. Treated cold, with chloro-hydric acid, till effervescence ceased, and then boiled with an excess of acid, it lost 83·66 per cent. more, leaving a nearly black powder (part of which was proved to be sulphate of lime), amounting to 7·69 per cent.

Hence, the predominant material in this scale, that to which it owes its chief properties, is carbonate of lime. Faint traces of the crystalline structure, already observed in the scale from salt water, and in the Pittsburg scale, were also found in this, and may probably be due to the portion of sulphate of lime ascertained to be present. A second scale, of a character similar to the last, from the boiler of Mr. Coggins, also consists chiefly of carbonate of lime, of a reddish-brown colour; and a third, from the connecting-pipe of a boiler which exploded a few years since at Kensington, is of the same general character, but less compact, and of a nearly flesh-red colour. An obvious solvent for this scale will also be found in acetic acid, or in a substance which can yield that acid to the lime.

ACCIDENTS.

Dudley.—T. Robinson was dreadfully injured by a fall of coals, while working at Mr. E. Pershouse's Smokey Pits.

Tipton.—While Levi Hall was engaged, at Mr. Walker's iron-foundry, in moving a casting-box, weighing upwards of 2 tons, for the purpose of putting the joints together, it proved too heavy for him, and knocked him with violence against another box, by which he was severely injured in various parts of his body, and died in consequence.

Chesterfield.—G. Oldfield was killed by the falling of a quantity of bind, while employed in the ironstone pits at Barlow.

Dolcoath Mine, Cornwall.—As W. Lethlean (timberman) was repairing one of the shafts, in the 100 fm. level, he fell through, and was killed.

THE EXPLOSION AT NANTYGLO.

[Addressed to the *Monmouthshire Merlin*, by "A South Wales Collier."]

"First-born of Chaos, who so far didst come
From the old Negro's darksome womb,
Which, when it saw the lovely child,
The Melancholy Mass, put on kind looks and smiled."
—*Cowley's Hymn to Light.*

SIR,—I do not know any class of men towards whom our sympathies can be more deservingly drawn than the working colliers, whose incessant labour, at this season of the year, excludes them from the light of day. None more strongly claim every protection in perilous employment. Your sensible remarks, and those of your correspondent, on the Nantyglo catastrophe, are worthy of notice by proprietors of collieries, and such as are filling responsible situations under them. But, Sir, I am well persuaded that the recommendation of Government interference is not very palatable to either parties, and, I think, might be done without. It is co-operation, the use of capital in perfecting works, and the exchange of good and generous feeling betwixt the employer and the employed, that are wanting. The practical mining agent has sometimes difficulties to surmount, of which Government agents know nothing, and to grapple with which theoritical mediers would be incapable. The practical man's figures are scrutinised, and every ton of coals is expected to average according to previously prescribed rules laid down in mining operations. Very considerable outlays are required at times, and one that is very urgently demanded might be delayed until another is completed. The working collier would place no confidence in a Government man, unless selected from the mining districts, and a practical colliery viewer. The following lines, penned by a collier, illustrates this:—

Now, deep in the coal mines we must stay,
Secluded from the light of day,
The fire-damp over our heads at play,
And the black-damp lurking for its prey;
What matter, if we have a good air-way?

At Nantyglo, they say, it was so,
Yet, how to believe them we do not know.
Spread the canvass at sea, when the winds do blow,
But a canvass door, in the earth so low,
Wo'nt do, when the perilous gases flow.

The Government plan, is to send down a man,
To remedy such evils, if they can;
But the fiery steed, with the death-cars ran,
And the poisonous sulphur which came in its van,
Has eluded the search of the Government man.

He walks through the roadways, he visits the stalls,
Makes mountains of mole-hills, and gets o'er the falls,
Enquires for a day, for a safety-lamp calls;
Then through the cool airways the gas-killer crawls,
Condemns them *in toto*, and packs up his auls.

THE HAUNTED MINES.—The Whitehaven Mines run out far underneath the sea, and are some of the most terrible in England. A man who had worked all his life in them, and had always borne a high character, was laid on his death-bed, and sent for the clergyman of his parish, to whom he had been previously known. I know not of what kind the disease was; it was one, I am assured, at all events, that did not affect his mind in the least, and that, during the whole account which I am going to give you, he was most perfectly and most manifestly himself. He related it on the word of a dying man. He assured the priest that it was no uncommon thing in the mines, for the voice of persons who had long been dead, to be heard as in conversation or debate. I do not think he said that apparitions were seen, but he affirmed that they were heard to pass along the passages with a loud kind of rushing noise; that the miners, as far as possible, got out of the way on these occasions; that the horses employed in the mines would stand still and tremble, and fall into a cold sweat; and that this was universally known to be a thing that might occur any time. One remarkable instance he gave. The overseer of the mine he used to work was, for many years, a Cumberland man; but, being found guilty of some unfair proceedings, he was dismissed by the proprietors from his post, though employed in an inferior situation. The new overseer was a Northumberland man, who had the burr that distinguishes that county very strongly. To this person the degraded overseer bore the strongest hatred, and was heard to say that some day he would be his ruin. He lived, however, in apparent friendship with him; but one day they were both destroyed together by the fire-damp. It was believed in the mine that, preferring revenge to life, the exoverseer had taken his successor, less acquainted than he with the localities of the mine, into a place where he knew the fire-damp to exist, and that without a safety-lamp, and had thus contrived his destruction. But ever after that time, in the place where the two men perished, their voices might be heard high in dispute—the Northumbrian burr being distinctly audible, and so also the well-known pronunciation of the treacherous murderer.—*Fireside Horrors for Christmas.*

THE PROGRESS OF THE RAILWAY SYSTEM.

The recent introduction of a preparation of India-rubber into railway mechanics appears likely, at no distant period, to supersede entirely the use of steel for buffer, draw, and carriage springs. If the preparation to which we allude—viz.: vulcanised India-rubber—continue to bear the test of daily wear and tear as well as it has hitherto done upon the Great Western, Eastern Counties, London and Brighton, and other lines, where the material has been applied to some of the carriages, the introduction of it must be considered as another important step towards the perfection of comfortable and safe railway travelling. The three great advantages derived from the adaptation of this material to railway buffer, draw, and carriage springs, are the saving of several tons of dead weight in a long passenger train—a matter of economy in working railway traffic—its perfect and equable flexibility, and non-liability to fracture from wear, or tear, or collision. The patentees claim for it another important property. They state, that as the buffers of the material cannot be driven to a dead hard stop, the most valuable results may, therefore, be anticipated from its use in the event of a collision. We would prefer looking at the vulcanised India-rubber in reference to the saving of dead weight to be effected by the use of it, to its thorough applicability to light or heavy pressure, and its non-liability to fracture, as we are quite satisfied that neither India-rubber nor any other buffers, however great their capability of resistance, will ever usefully counteract the shock consequent upon the sudden stoppage of a railway train proceeding at a moderate rate of speed. We presume that the majority of our readers are aware that every railway passenger-carriage has at each corner of the frame on which the body of it is secured, a disc attached to an iron rod, and projecting longitudinally therefrom some 10 or 12 in. These rods extend under the frame of the carriage, and are affixed to the ends of two powerful springs placed back to back transversely across the centre of the framing, and at right angles with the rods—therefore the effect of a blow which a carriage in its position in a train gives to one preceding, or received from one following it, is felt in the direction of the two rails on which the train is moving. These buffers are, before a train is in order to be dispatched from the station, made to exert a pressure against the transverse springs by what are termed screw couplings. The latter are placed over hooks fixed to bars of iron in connection with the draw or haulage spring—viz.: that by the flexibility of which the passenger is prevented from receiving a sudden shock when the train is started. But for these buffer and draw springs the starting and stopping of a train would occasion a sudden and exceedingly unpleasant collision of the carriages. This is peculiarly the case in goods trains, where the buffer and draw springs are dispensed with. The shock in starting and stopping these trains is frequently so sharp, that passengers would be thrown from their seats by it. The buffer-spring is a simple, but very effective contrivance, and with six-wheeled carriages in good condition, and the permanent way in perfect repair, the use of steel, both for that and the carriage-spring, leaves very little, indeed, to be desired in the way of comfort and safety. That little, however, may, we think, be supplied by the use of the vulcanised India-rubber.

By the use of the new material, the heavy transverse buffer-springs are got rid of. The buffer-rods are made to act upon a series of circular layers of it, weighing in the aggregate 30 or 40 lbs. only. This will effect a saving of, say, 2 cwts. of dead weight in each passenger carriage. The non-liability of the material to fracture will constitute an element of economy, as well as safety in working the railway system of the country. A further advantage possessed by the vulcanised India-rubber is, that by the use of it a perfect uniformity may be secured in the strength or flexibility of the buffer and carriage springs, which can, by simply increasing or decreasing the diameter of the circular-pieces of the material, be rendered extremely rigid or exceedingly pliant. Nor, as we have previously stated, are the springs made by it liable to get out of order from imperfection of manufacture, or from wear and tear while in use. The material will bear, as we have ourselves witnessed, an immense pressure, without its structure being in the slightest degree injured; and as far as we able to judge from an inspection of the buffers made of it, and now in use upon the Great Western and other railways, it appears to resist equally well continued pressure as a carriage spring, and the constantly recurring blows of the buffer-rod. Some of the advocates of the use of the vulcanised India-rubber for railway purposes, are very warm in their praise of the smooth and easy motion of the carriages fitted with springs made of it. But the fact is, that the India-rubber has very little advantage indeed in this respect over the well-balanced carriages with six wheels having wooden spokes. The London and North-Western Company's new six-wheeled carriages, which are fitted with steel springs, the three on each side acting together, and not separately, have an extremely easy vertical and lateral motion. But the motion of a railway carriage is frequently a very complex one. The rate of speed, the longitudinal and lateral overhanging weight, the condition of the rails and permanent way, the state of the tires and gauge of the wheels, and of the axle-boxes, as well as the character and condition of the carriage buffer and draw-springs; and sometimes even the motion of the locomotive itself, will all, in a greater or lesser degree, enter into the irregularity of motion. This irregularity arises, no doubt, in most cases, from the permanent way being out of repair, from the improper coupling, and also from the unequal strength and wear and tear of the buffer and carriage-springs. It is the latter irregularity that the use of vulcanised India-rubber is calculated to reduce to the minimum amount.

The real recommendations with which this preparation of India-rubber presents itself to the notice of railway companies are—1. Its great comparative lightness; its superior flexibility; its non-liability to fracture, and its economy in wear and tear. These, we suggest, are quite sufficient, without the exaggerated suggestion of the patentees, that it is likely seriously to lessen the effects of a collision. We take it that the results of a collision, both as respects injury to persons or carriages, will be almost precisely the same whether the buffers acted upon by a force equal to several hundreds of tons, impinge upon a few feet of India-rubber or any other flexible substance. A passenger-train of average length consists, on a narrow gauge main line, of from 8 to 10 carriages. The entire play of these carriages upon the buffer-springs is from 16 to 18 ft.; and it matters little or nothing whether such a train, proceeding at the usual running velocity of 40 miles an hour, be brought to a dead stand within such 16 or 18 ft. by vulcanised India-rubber, or any other resisting medium. The shock and the consequences will be almost identical. The vulcanised India-rubber buffer-springs are very excellent things; but by overstating the superior claims which the material unquestionably has to the patronage of railway managers, practical men who have not had an opportunity of testing its capabilities, or have not heard of them on good authority, may doubt whether it possesses any. If the patentees desire to facilitate the adaptation of their material to the entire stock of our great railway companies, they should, we think, somewhat reduce their present prices, which are certainly too heavy.—*Herald*.

IMPROVEMENTS IN RAILWAYS.—Mr. John Crane, in a paper read at the Scottish Society of Arts, suggests the following improvements—the first, for locomotive engines to ascend or descend steep inclines. It consists in laying along the incline a toothed rail, outside of the common rail, and keying on additional wheels with teeth on the shaft of the driving-wheels of the engine, outside of the bearing-wheels, and working in the toothed rails, and the teeth of which are to work in the teeth of the rail—thus pulling on the train.—The second improvement consists in making the wheels with double flanges, one on the outside of the rails, as well as the usual one within them—thus the wheels would be less liable to go off the rails.—The third improvement consists in laying the rails on longitudinal sleepers, connected together by cross sleepers, and forming a series of strong square frames.—The fourth improvement is for a break. Instead of pressing against the wheels, and thereby retarding them by friction, and eventually locking them, the break falls down at once between the wheel and the rail, inserting itself between them like a wedge, and thereby locks the wheels, and, at the same time, rubs upon the rail. Four wedges are required for ordinary carriages, one pair at each end; each pair of wedges is connected by a bar of wrought-iron, in the centre of which a chain is fastened, which can be raised by the guard, and fastened by passing one of the links over a hook. When the chain is detached from the hook or button, the break, by its own weight, and guided by a rod attached to the carriage, falls under the wheels, and prevents them revolving. The guiding rod to have its centre of motion eccentric to that of the wheel, and that centre to be a pin fixed on the axle frame of the carriage, a little above it—so that the wedges, when raised, may be clear of the wheels.

PATENT LAW—THE PATENT TUBE COMPANY.—If we were anxious to entail a legacy of expense and trouble on our greatest enemy, we should advise him to obtain a patent for some important invention; for in that case he would certainly become involved in every possible variety of legal nuisance, from a simple action of *assumpsit* to an everlasting suit in Chancery. It is only a fortnight since that we narrated to our readers the proceedings which have taken place with reference to Mr. Cutler's patent for improvements in the construction of the tubular flues of steam-boilers. In the statement we then advanced, we were simply guided by the facts as they had publicly transpired; but circumstances have since been authoritatively communicated to the public by the parties mainly interested, which render it important to the trade that the true position of the matter should be ascertained. In adverting to the recent proceedings by *scire facias*, coupled with the result of the intended trial at the Warwick Assizes, we asserted that the result of the verdict would be "to leave Mr. Cutler in full possession of his valuable invention." In this assumption, however, we were acting on the hypothesis, that the interests of Mr. Edward Bower and the Patent Tube Company were in fact identical; but it now appears that there are three classes of parties with interests diametrically opposite. First—we have Mr. Cutler, who claims as the original patentee; next, we have Mr. Bower, who, as purchaser, claims a material interest in the patent; and, finally, there are Messrs. Hodges and Selby, of the Patent Welded Iron Tube Company, who, prior to the trial at Warwick, were assigns of the license originally granted by Mr. Cutler to Mr. Bower, but who utterly dispute the validity of Mr. Cutler's patent, and profess to work upon a different principle. It now would seem that so far from the recent proceedings by *scire facias* having brought the matter to a close, they have only opened an avenue for future litigation; for, though the jury found a verdict for the plaintiff on all the issues, we are told that, with reference to the 3d and 4th claims in the specification, they acted in immediate opposition to the direction of the presiding judge. As the matter, however, is one of peculiar interest, we insert the full particulars of the claim:—"What I claim as the first part of my invention, is the mode of welding iron or steel tubes by drawing them through dies, or between grooved rolls, when, and at the same time as, drawing such tubes on mandrils, the mandril being a necessary and important part of the mechanical apparatus in producing the welding.—2. I claim the welding of iron or steel tubes, by hammering upon a mandril at the same time I am drawing the tube from the fire along a mandril, so that the tube is welded on and drawn over a mandril at one process.—3. I claim the application of either iron or steel tubes, when coated with copper, brass, or other alloys; of copper in the construction of tubular flues for steam-boilers.—4. I claim, in the construction of tubular flues of steam-boilers, the application of welded iron or steel tubes, which have been drawn through a circular hole or die, or between rollers, and which have been drawn over a mandril, for the purpose of smoothing the external and internal surfaces of the tubes, and for regulating the thickness of the metal." With reference to the first and second claim, the Tube Company are understood to be entirely indifferent; for they allege that they adopt the invention of Mr. Prosser, which was secured to him by letters patent before the date of those which were granted to Mr. Cutler; and with reference to the third and fourth claims in the specification, which, in reality, are held to be the most important (but, on which, of course, we are unable to pass a judgment), it is said to be intended in the ensuing term to move to set aside the verdict, on the ground decided in the several memorable cases, that a patent does not protect the application of a known article to a new purpose, although it may protect the mode of manufacturing the article itself.—*Birmingham Advertiser*.

On Mining, & the Practical Applications of Geological Science.

PROF. ANSTED'S LECTURES, AT KING'S COLLEGE.

LECTURE XIII.—THE PRACTICAL APPLICATION OF GEOLOGICAL SCIENCE TO MINING—FOREIGN COAL-FIELDS.

Professor ANSTED commenced by stating that, having described the principal coal districts of England, he would, in the present lecture, first of all speak of the beds which make their appearance in Scotland and Ireland, and then proceed to give his hearers a general notion of the quantity and relative value of the coal discovered in other parts of the world.

With regard to Scotland, he had already mentioned that the principal supply of coal was from the valley of the Clyde. In that district there was a vast number of beds belonging to the carboniferous series, and there were 40 or 50 seams of coal which had been named, or worked. The total thickness of the series was very great, being about 5000 ft. This great thickness, which included vast numbers of seams of coal, also comprised a number of beds of sandstone and clay, amongst which the coal was interspersed, often in mere films, but frequently thick enough to be worked. The coal was obtained at moderate depths, and some seams were worked in conjunction with the ironstone which was found with them. The quality of the coal was not so good as that of Newcastle, or of Wales—at least, for domestic purposes, or for the steam-engine—but there was a third use to which it was perfectly well adapted, and that use in its way was, perhaps, as important as either of the other two. The use to which he alluded was that of smelting iron. The coal was associated with iron ore, as in Wales; the latter was an argillaceous carbonate of iron—but instead of being of a pale yellow colour, as in the Principality and in Staffordshire, it was much darker, and in one or two cases quite black. These dark ores were much richer than the paler ones, and were called "the black-band;" they contained 6 or 8 per cent. more iron than the ordinary ores. The Scotch coal was, therefore, eminently useful, because it was thus associated.

In Ireland they were not so fortunate. There were beds in each of the four provinces —those of the south being anthracitic, and those of the north bituminous. This was worthy of notice, as it connected the beds of Ulster and Connaught with those of Lancashire, which were distinctly bituminous; and those of Leinster and Munster with the anthracitic beds of North Wales. The coal of Ireland was generally more basin-shaped than that of England, though not strictly of that form.

In considering the continental coal, they would observe two well-marked positions in relation to this country—that of Belgium to the east, and that of France to the south. The continuation of the English beds were traceable to Europe in this way—the coal was continued to the coast, and, when land again appeared, the carboniferous strata were covered by newer beds, and in the neighbourhood of Brussels by the tertiary deposits. Beyond that they reappeared further to the east, having a western dip; and, though neither a rich coal nor very thick, the seams were still so far alike, and in the same condition, as to warrant the assumption that they were a repetition of the English beds. There was thus generally an apparent geological connection between England and Europe, and no doubt existed but that the carboniferous limestone series, and the beds which covered them, were in both pretty nearly the same thing; and when they looked on the continent for a repetition of similar conditions to those which existed in England, such conditions were often found. The Belgian coal, there could be little doubt, was the same as that of Newcastle, though it was not so good in quality, and was generally more tender in the working, and occurred in beds more approaching a vertical position than a horizontal one. These beds were in fact as though they had been lifted up; and thus, instead of working the coal as in the Newcastle district, the custom in Belgium was to sink a single shaft, and to run horizontal galleries on the strike of the coal, instead of rising on the dip, and then to work it in galleries vertically over one another. In fact, the method of mining for coal in Belgium was nearly the same as that used in obtaining the contents of metalliferous veins. The number of beds in the Belgian district was not very great; four or five had been distinctly made out, though their resemblance to English seams was not sufficient to render certain the identification of them as occupying a corresponding place. The Belgian coal was valuable for domestic purposes and for manufactures, and from the fact that the metalliferous ores were frequently found in association with it. This was the case at least in Belgium more than was usual in England, except in respect to iron. The most remarkable fact, with regard to the geology of the Belgian coal-fields, was the wonderful amount of disturbance which all the beds had undergone.

In France, the beds of coal were not numerous, and their associated minerals not very abundant, or remarkably valuable. They had the carboniferous limestone and the other beds, however, in as direct a sequence as in England. These formed a distinct group from those of Belgium and the more northerly beds. The district best known was that of St. Etienne, near the town of Lyons; it was, however, only 20 miles English in length, and a mile and a half was its extreme breadth—so that it formed a very extraordinary elongated trough, or basin. It was very remarkable that, though the deposits of the district were very regular, the coal was not associated, as it was in most districts, with other beds of the carboniferous period, but reposed directly on granite and gneiss—so that there was scarcely anything between the metamorphic rocks and the coal itself.

In speaking of the Belgian coal districts he should have mentioned that, in the valleys of the Ruhr, between the Rhine and Düsseldorf, there was also coal, exhibiting a repetition of the Belgian conditions to the north-east, but in a less disturbed state. The quality was inferior, being somewhat stony. There seemed little doubt, that as we advanced eastward from England, the conditions of coal became less favourable, until, having passed the Rhine, there was none at all until Russia was reached.

The talented lecturer proceeded to mention that there was a very interesting coal-field near the confluence of the River Saare and the Moselle, just on the frontier of France and Germany. Here the beds were of a good thickness, and capable of being worked to a great extent. They were, however, now worked very slightly, as they belonged to Prussia; while the manufacturing districts, near which they were, and to which they might be very valuable, were in the French territory. Russia also contained beds of coal, though at present they were not much worked. Those on the River Don had been worked for some time, and to such an extent, as to enable the Government to ascertain that the coal was of good quality.

These were all the coal districts of Europe, with the exception of Spain, and he had reserved the mention of them until the last, because they were more a repetition of the English beds, than any other of the southern parts of Europe. In the north of Spain, amongst the Pyrennees, coal had been ascertained to exist in such considerable quantities, as to indicate that that might be made the centre of a most important manufacturing district, for there were also enormous quantities of metalliferous ores. The rivers in the neighbourhood might, it was supposed, be rendered navigable, and roads to the coast certainly might be constructed, though none existed at present. Coal had also been said to occur in the south-east of Spain; but it had not yet been described by any scientific traveller, and the fact was, therefore, doubtful. It was probably lignite, since it was not very likely to be bituminous coal of the carboniferous period.

Leaving the continent of Europe, and travelling eastward, the quantity of coal at present known to exist was small, compared with the vast extent of land in that direction. In very extensive districts of Tartary, Russian Tartary, and Chinese Tartary, occupied by beds of a much more modern date, there was no chance of there being true coal. In the central part of the southern countries of Asia, there were, probably, considerable quantities of coal, though of an unknown age. It appeared likely that there was not much in India of the true carboniferous period, but still there were several important localities in the northern part of India, in which beds, some of them of very great thickness, had been described. These beds, which were probably thicker than it was possible to form a correct estimate of, were not at present well known; but a considerable number of isolated facts of great importance had been gathered, and all that could be determined from the reports given had been made public by him (Professor Ansted) in a communication, "On the Geological Conditions of India," made to the British Association for the Advancement of Science at Southampton, and the substance of that communication was also published at the time in the *Mining Journal*. There was coal also in the eastern districts near Calcutta, and southwards on the Mahratta Coast, and even as far as Singapore, where lately there had been found bituminous coal, not of a very good quality, perhaps, but quite capable of being used for steam purposes. This was of the greatest importance, as at every place, when coal was discovered, stations might be established, and steam communication carried on.

There was also coal in the Island of Borneo, and there was no doubt, ere long, that it would be worked; and thus they would be able to get so far on the way to Australia, as to make direct steam communication with those antipodal regions quite practical.

On the eastern coast of Australia itself there was coal, but it was at a long distance from some districts which required it most. There was, he believed, no true coal yet found in Australia, except that in the eastern parts. In the western regions there were considerable quantities of metalliferous ores, remarkable for their richness, particularly that of copper; and there, he understood, some lignitic coal had been found which might be used for smelting.

These, then, with the exception of China Proper, were the only portions of the eastern hemisphere in which coal had been found. With regard to the remainder of that vast extent of surface, it had either not yet been examined at all with that view, or it had been found utterly hopeless to expect coal. He might mention, however, that, in one or two districts of South Africa, the existence of coal had been reported; but he could not at present state with certainty the true state of the case.

The continent of America was fully as rich in the possession of coal as that of Europe; but it was confined to the northern continent, being nearly, if not quite, absent in the southern. It was very remarkable, too, that it was only found on the eastern side; while in the Old World the principal coal districts were on the western side. Thus the two sides of the great Atlantic basin nearest each other produced by far the best coal in the world. This was an important geographical fact. The districts in America, most remarkable for the presence of coal, were Pennsylvania, Ohio, Virginia, Nova Scotia, and Prince Edward Island, and some other parts of the British possessions. In Pennsylvania the coal-fields of the carboniferous period were 200 miles in length, and they were associated chiefly with sandstones, limestones, and conglomerates. The total thickness of the coal was not more than 50 ft. in the southern part of the district, while in the northern it was at least 70 ft. or 80 ft. The quality of the coal was mostly good, and chiefly anthracitic, though there were some portions which were bituminous. These deposits, and those of Ohio, were most analogous to those of Staffordshire; while the beds in Virginia corresponded more nearly with those of France, in being basin-shaped, in reposing upon igneous rocks, and in having no associated carboniferous beds. Instead, however, of belonging to the true carboniferous period, they had been determined by Mr. Lyell to be newer than our palæozoic formations.

These were the principal beds of true coal to be found in the world; but, besides these, there were a number of beds of a newer geological age, known by the name of *lignites*, from the fact of their generally exhibiting a woody structure. In the United Kingdom such beds had been found near Kimmeridge, in Devonshire, and in Ireland; but true coal being so cheap and plentiful, they were not much valued. On the Rhine, in the Duchy of Nassau, and in Prussia, however, there occurred beds of this kind of fossil fuel, of great thickness. In those places they cut readily with an axe, like wet wood, and, when dried, formed tolerable fuel, though they contained a good deal of sandy and argillaceous matter. The quantity of silliceous and other ash contained in lignites often prevented them from giving out a great amount of heat, when burnt in the ordinary way, though this was not always the case. Lignites sometimes contained sulphur, and occasionally a little phosphorus; but when these two materials were absent, and when the ash was not in excess, there was no reason why they should not be used in the smelting of iron, and in Prussia they had been made use of for that purpose. In Styria there were immense beds of lignites, consisting of 94 per cent. of carbon, and these formed excellent fuel for domestic purposes, and might be employed in the manufacture of iron. The great line of railway now opening through those districts would probably occasion the more general use of lignites for smelting in Hungary, as well as Styria.

One fact respecting lignites was worth knowing. Whilst coal, and the older rocks, were evidently deposited over considerable districts at one time, lignites were deposited very partially, and often in one part of the same valley, they would be of great thickness and at a short distance scarcely appear at all; something like "the horses" of the Forest of Dean, in England. The probability was, that lignites were deposited under different circumstances from those which attended the stratification of coal. Besides those he had mentioned, there were important beds of lignite in other parts of the world, particularly in Northern India.

The learned professor then said, that before concluding this part of the subject, he intended to say a few words respecting the obtaining of *salt*, which was, so far as regarded geological condition, very much in the same position as coal, only in less regular beds. Salt was generally associated with sandstones, which contained, and were coloured red by oxide of iron—with argillaceous beds, partly calcareous, and in the form of marl—and with sulphate of lime. In this country, the salt beds were of the new red sandstone period. In Poland, though associated with beds of sandstone, they were, however, of the tertiary period; and in the Tyrol, and in Austria, the salt was associated with beds, most likely of the older secondary period. There seemed, in fact, no distinct limit to the age of salt, which was formed, most likely, without reference to age, by the drying up of quantities of salt water. In England, these beds were confined to Cheshire and Worcestershire. Salt was then worked in beds, which varied from 40 ft. to a few inches in thickness—not clean, but mixed up with impurities, and seldom so pure as to be found in the crystalline form; in many cases it was mixed with oxide of iron and clay. The mines, by which it was obtained, were not generally very deep, and the salt rock was removed in masses by cutting, or by blasting, leaving large pillars. In other parts of the world, the method of obtaining salt was very different. In the Tyrol, large galleries were made, and filled with water, which, absorbing the salt, was afterwards pumped out, and the salt obtained by evaporation. In Poland, it was procured chiefly by blasting, the mines there being very extensive.

The lecturer concluded, by saying that he had now given an account of such descriptions of mining, as involved the obtaining of portions of the earth's crust, deposited in a regular manner. Early in next term, he intended to continue the course of lectures, by describing the methods of obtaining the metalliferous ores, and that part of the subject would occupy, exclusively, the remainder of the course.

[In the *Mining Journal* will be published the conclusion of these interesting and important lectures, whenever they may be recommenced.]

The History and Practice of Mining in the British Isles,

IN RELATION TO METALLURGY.

MR. ROBERT HUNT'S LECTURES AT THE LONDON INSTITUTION.

LECTURE I.—THE TIN MINES OF CORNWALL.

On Thursday evening, ROBERT HUNT, Esq., the talented *custodia* of mining records at the Museum of Practical Geology, commenced, at the London Institution, Finsbury-circus, a course of six lectures—"On the History and Practice of Mining in the British Isles, in relation to Metallurgy." The theatre of the Institution was well filled by a respectable and most attentive auditory of both sexes.

Mr. HUNT commenced by remarking that, however sensible his auditory might be of the importance of mining operations, many of them probably thought that little or no interest attached to these operations, but looked on them simply as the sinking of a pit in the earth, and taking therefrom the materials contained in the crust of the earth; but he thought he should be able to show, before the conclusion of the six lectures he was just commencing, that there were a number of most remarkable phenomena connected with the distribution of minerals, their geological associations and relative positions, sufficient indeed to furnish abundant materials of the deepest interest for a much longer course. In fact, he was quite sure that, if he failed in doing this, the fault would be his own, and not that of his subject, which overflowed with interest of the highest order. Besides that, when they considered that the mineral wealth of this country is estimated at 20,000,000*l.* annually, they would perceive how important was an accurate knowledge of the best methods of conducting mining operation. It was also of the highest importance that the phenomena connected with the presence of minerals should be generally known. He did not mean that it was necessary for those who were not miners to be acquainted with every detail in connection with the law of distribution; but that those who engaged in mining speculations should, for their own interest's sake, be acquainted with certain facts in relation to the distribution of minerals, as, by means of that knowledge, they might often avoid the outlay of large amounts of capital, now too frequently thrown away for want of that knowledge.

The subject he had selected for the first lecture was "Mining for Tin," and that because it was of the highest antiquity—tin being obtained in Britain previous to any other metal, as was evident from the numerous remains of workings of unknown age, discovered in Cornwall. It was known to Homer and to Moses—the terms *bedil* and *bedilstone*, which occurred in Numbers, in Ezekiel, and in Zechariah, being supposed to mean tin. The Greeks always translated the word *bedil* into *cassiteros*, and as this was a word of Celtic origin (of similar origin to the British appellations, *cassi* and cassivelaunus), it was highly probable that they derived the word *cassiteros* from the Phœnicians, who, we are informed by Herodotus, brought tin from the Cassiterides, or tin islands. These tin islands, in all probability, were the Scilly Islands, including the western coast of Cornwall, which, according to Borlase, when viewed from the Scilly Islands, appears insular. Indeed, the level of the land running right across the peninsular from St. Michael's Mount to Hayle, was but a very few feet, indeed, above the sea level—in fact, the difference was so trifling, that it was proposed a few years ago to cut a ship canal across, to avoid the danger and difficulty of navigating round Land's End. It was not improbable that at one period a considerable quantity of tin was procured from the Scilly Islands, though now none at all was obtained from thence, for the Saxon monarch, Athelstan, considered them so valuable for their mineral produce, that previous to an expedition against them, he vowed, should he conquer and add them to his dominions, to build a church and monastery, which, proving successful, he afterwards did—viz: the church and monastery of St. Burian. There were also the remains of many old tin workings in Cornwall, the most remarkable of which were three large hollows in the respective neighbourhoods of Land's End, the Lizard, and the Gwennap district. The first of these (Land's End Hole) was near the headland of Penwith, and tradition asserted, that it was the entrance to a passage which was excavated under the Atlantic, and communicated with the Scilly Islands. It was, however, nothing more than the remains of an old British working. The second of these remarkable hollows was near Cadgwith—it was called the Devil's Frying-pan, probably because at high tides, when there was a heavy sea, the water rushed into the bottom, the construction of which caused a great bubbling. The third, and largest of these singular hollows, was the Gwennap Pit, the size of which might be imagined by the fact, that it could accommodate 5000 or 6000 persons with its turf seats. It was of amphitheatrical shape, and in it John Wesley was accustomed to hold the annual meetings of his followers, for the purposes of devotion. There were many other smaller hollows of a like character, all of which were evidently ancient British workings, though of what date it was impossible to say. They, probably, belonged to that period when the Phœnicians traded thither for tin; and the mode in which that metal was then obtained sufficiently accounted for their peculiar form. The custom was to remove the superficial soil; the granite beneath, being in a state of semi-decomposition, was next removed, and the next substance, which contained the tin, was then obtained gradually by steps, until the bottom of the place was reached. Diodorus Siculus has a very curious statement of the tin mining of Cornwall in his time. He says—

"We will now give an account of the tin which is produced in Britain. The inhabitants of that extremity of Britain which is called Bolerion [he here evidently meant the whole district of Cornwall; but the early British writers designated by this name only those parts immediately adjacent to the Land's End], doth excel in hospitality; and, also, by reason of their intercourse with foreign merchants, are civilised in their modes of life. These prepare tin; working very skillfully the earth which produces it. The ground is rocky; but it has in it earthy veins, the produce of which is brought down, and melted and purified. When they have cast it in the form of cubes, they carry it to a certain island, adjoining to Britain, and called Iktis. During the recess of the tide, the intervening space is left dry, and they carry over abundance of tin to this place in their carts; and it is something peculiar that happens to the islands in these parts, lying between Europe and Britain—for, at full tick, the intervening passage being overflowed, they appear islands; but, when the sea retires, a large space is left dry, and they are seen as peninsulars. From hence, then, the traders purchase the tin of the natives, and transport it into Gaul; and, finally, travelling through Gaul, on foot, in about thirty days they bring their burdens, on horses, to the mouth of the River Rhone."

There had been considerable dispute as to the true locality of the Iktis of Diodorus Siculus, and it was now generally believed to be St. Michael's Mount, and the parts adjacent. The granitic mass, of which that e evation was formed, was, at high water, quite insular, but, when the tide receded, it became peninsular; and there was a passage, commonly used for carts to this day, across the sands. Hawkins and Borlase both believe this to have been the Iktis of the classics—at any rate, there was collateral evidence to show that large quantities of tin were obtained near that spot. At an early period the tin workings of Cornwall were mostly in the hands of the Jews; and the town of Marazion, in that locality, was formerly called Market Jew, and, indeed, was now so designated by the country people. Again, one of the principal streets in Penzance was known by the name of Market Jew-street. Besides this, there were numerous remains of ancient furnaces, overgrown with moss and turf, which had been called, time out of mind, "Jew's workings." The phrase, "Attal-Saracen," too, common in Cornwall as the name of certain ancient rubbish-heaps, was of great antiquity; but whether the latter part of it was applied to the Moors in particular, or to foreigners generally, was not now ascertainable. It was just possible that the Spaniards might have worked tin in Cornwall—as it was quite certain that tin was worked in Spain previous to the reign of the Moors, and the phrase might have arisen from that circumstance. *Attal* was a word now in common use to designate rubbish. In many of the stream workings, had been found, at the present day, curious bronze instruments, called *celts* (the use of which was not well understood), rings, and other ornaments—probably lost by the miners of ancient days, and affording indubitable evidence of the antiquity of mining for tin in those localities. Again, in several places, there were large granite tables, the surface of which was worn, in a remarkable manner, into hollows, and evidently by other action than the mere natural abrasion of particles which was produced by water. Granite was composed of felspar, quartz, mica, mixed with some other materials, and was certainly liable to disintegration under certain conditions; but these hollows were evidently more than that. Dr. Borlase referred all these rock basins to the sacrificial purposes of the Druids; but other writers had suggested, that they were the places where the ancient British miners pounded and washed their tin ores. That, he thought, was a fair conclusion to come to, as it was quite certain that, at a very early period, the Romans, in Britain, manufactured vessels of tin, some of which had been found in Corwall. At the beginning of the last century, manufactured tin was found at York, with Roman antiquities, which were described at length in the *Philosophical Transactions*, and *Whitaker's History of Manchester*. In 1756, tin vessels, with Roman inscriptions, were dug up in Cornwall; and, more recently, at Constantine, rings, brooches, and other ornaments, of that metal, and of Roman manufacture, have been found.

During the time of Richard, Earl of Cornwall, and the King of the Romans, large revenues were raised from the tin mines, which were then in the hands of the Jews. In the reign of John, the barons complained that they could not get possession of any of the mines, on account of the charters that monarch had given the Jews. After the banishment of that people, however, the mines were long utterly neglected. They were again worked in the reign of Edward the First, for the miners then agreed to meet on Hingston Hill every seventh year to consult as to their common interests; and five coinage towns for Cornwall, and three for Devon, were appointed. At these towns only could the tin be taken for sale, or for the purpose of being coined; and, by that means, the collection of the revenue was secured. Each tinner was permitted to sell his own tin, unless the King bought it himself. Edward the Third established Stannary Courts: in these were tried the cases of debt and trespass, which arose among those who dwelt in black tin (the ore), or white tin. The verdict was ordinarily given by six tinners, upon which the steward gave judgment. In more important cases, 24 jurors—six from each division—were impanelled. In these courts, strict justice did not appear always to be done; but might often overcame right. They had, however, continued to the present time. England—or, it might be said, Cornwall—had an exclusive trade in tin until the 13th century, when tin mines were discovered in Bohemia by a Cornish miner, who, having committed a murder, fled thither for safety. The Germans, it appeared, were soon able to sell their tin at so cheap a rate, that Richard, Earl of Cornwall, complained of great losses by his mines. By the Charters of Edward and John, powers were granted to the miners to take turf and wood for the purposes of smelting tin, "as had been their ancient custom," said the document; though now there was scarcely any wood at all to be found in Cornwall. There were, however, traces in some of the valleys of ancient forests, which it was probable had all been consumed in smelting ores; and the "Jews' houses," which were merely furnaces of a rude description, made of bricks and stones, about 4 ft. high, contained indubitable traces of the ashes of wood and turf having been used for fuel. In their neighbourhood, he might here mention, blocks of tin were sometimes found, which were called "Jews' tin"—specimens of which were in the Museum of Economic Geology. Some of these blocks were in the form of regular cubes; but more frequently presented the appearance of having been cast in an indentation, made with the hand upon sand, into which the molten metal was run. The Jewish miners were evidently in possession of some process by which they separated the bismuth, so often associated with tin from that metal; for he had often found masses of bismuth near the "Jews' houses;" and the pebbles in some of the Cornish streams were nearly all composed of the bismuth, which was evidently rejected by the Jews, when smelting tin along the sides of the circumadjacent hills. He would now quote an interesting passage from Carew, respecting the early system of mining—before reading which, it was necessary to explain, that "streaming for tin" was washing certain beds, when the impurities passed away, leaving the heavier particles, containing the mineral, at the bottom:—

"Their workes, both in streame and load," says Carew, "lie either in *Severall*, or in *Wastrell*—that is, in enclosed grounds, or in commons. In *Severall*, no man can search for tynne, without leave first obtained from the lord of the soile—who, when any myne is found, may worke it wholly himselfe, or associate partners, or set it out at a farme certaine, or leave it unwrought, at his pleasure. In *Wastrell*, it is lawful for any man to make triall of his fortune that way, provided that hee acknowledge the lorde's right, by sharing out unto him a certain part, which they call toll—a custome, savouring more of indifference than the tynner's constitutions in *Devon*, which inable them to digge for tynee in any man's ground, inclosed, or unclosed, without license, tribute, or satisfaction. Wherethrough it appeareth, that the lawmakers rather respected their owne benefit than equitie, the true touch of all lawes. The *Westrell* workes are reckoned among chattels, and may pass by word, or will. When a myne is founde in any such place, the first discoverer aymeth how farre it is likely to extend; and then, in the foure corners of his limited proportion, diggith up three turfes, and the like (if he list) on the sides, which they terme *bounding*, and within that compass everie other man is restrained from searching. These bounds he is bound to renew once everie yeare, as also, in most places, to bestow some time in working the myne, otherwise hee loseth this priviledge. The work thus found and bounded, looke how many men doe labour therein, so many *doales*, or shares, they make thereof, and proportionably divide the gaine and charges. The lord of the soyle is mostwhere allowed libertie to place one workman in every fifteen for himself, at like hand with the adventurer, if hee be so disposed."

The practice of "tin bounding" remained to this day. Before dismissing this part of the subject, he would quote another very curious passage in respect to the dealings of the London merchants of those days. Carew further says—

"Here I must either crave, or take, leave of the Londoners, to lay open the hard dealing of their tynne merchants in this trade. Whan any western gent., or person, of accompt wanteth money to defray his expenses at London, he resorteth to one of the tynne merchants of his acquaintance to borrow some; but they shall as soon wrest the clubbe out of Hercules's fist as one pennie out of their fingers, unless they give bond for everie 20*l.* so taken in loane, to deliver 1000 lbs. weight of tynne at the next coynage, which shall be within two or three months, and, at furthest, within half a year after."

Again, Carew complains—"To these hungrie flies the poor labouring tynner resorteth, desiring some money before the time of his pay at the deliverance (which meant time of delivery); the other puts him off at first, answering he hath none to spare. In the end, when the poor man is driven through necessity to renew his suit, he falls to questioning what he will do with the money. Saith the tynner—'I will buy bread and meate for myselfe and my household, and shooe, hosen, petticoates, and such like stuffe for my wife and children.' Suddenly herein this owner becomes pettie chapman—'I will serve thee,' saith he; and he delivers him so much ware as shall amount to fortie shillings, in which he cuts him half and half for the price, and four nobles in money, for which the poor wretch is bound in *Darbye's* bonds, to deliver him 2 cwts. of tynne at the next coynage, which may then be worth 5*l.* or 4*l.* at the very least."

Such were the principle matters connected with tin, detailed by history. There were certainly others of importance, but as they were combined incidentally with the subjects of copper and lead, they would be introduced more naturally when he lectured upon those metals.

The talented lecturer next called attention to the order of the occurrence of tin in nature. It was well known that Cornwall was the only part of Britain in which mines were worked for tin, with the exception of a portion of Dartmoor, in Devonshire. Mr. Hunt then referred to a large geological map of Cornwall, including that portion of Devonshire in which Dartmoor is situated, to the scale of two inches to the mile, on which were distinguished by different colours the masses of granite, of clay slate, the carboniferous or Devonian series, the horn blende, the elvan courses, the mineral lodes, and the other geological conditions of the various districts. In some places the tin was disseminated over the mass of the rock, as in the neighbourhood of Land's End; and in the district of St. Just the granite was so thickly studded with tin, that it was sometimes worth working, though more frequently it was not so. More generally tin occurred in veiny accumulations. [The lecturer here referred to several specimens of tin as present in various substances, which were exhibited on the table of the lecture-hall.] The best ore contained about 99 per cent. of the oxide of tin, with a small quantity of oxide of iron, and a little silicate. The sulphuret of tin, on the other hand, contained 34 per cent. of tin, 36 of copper, 2 of iron, and 28 of sulphur; a very large portion was raised in this condition, and it could never be rendered so pure as the oxide of tin, obtained in the stream workings. Tin was sometimes found in a crystallised form. Its crystals were mostly an obtuse octahedron, and sometimes a varied prismatic form, giving rise to the pyramid. The way in which tin displaced the crystals of felspar in the St. Agnes district was very curious. The felspar in granite was extremely liable to decomposition; and, as soon as it became decomposed, it was replaced by silicate of tin. [The lecturer here exhibited specimens in every degree of change, from the first of appearance of tin to the total disappearance of felspar.]

The most valuable portion of the tin raised in Cornwall was procured from stream-works, simply by the process of washing the alluvial deposits in the valleys, arising, no doubt, from the natural abrasion of the granitic hills. All the old writers attribute these alluvial deposits to Noah's flood. He would not then enter upon that subject, but it was a curious fact, that the whole of the *debris* through which the streams ran in which tin was found, were on the southern side of the granitic hills, the conditions of which bore testimony to these having been, for a succession of ages, submitted to the action of disturbed water—hence it might be concluded, that those tin deposits were formed at the period when the granitic masses, at the foot of which they reposed, were islands, and exposed to that powerful action of the sea, which Prof. Edward Forbes calls "the great northern drift." The stream tin mines of Pentuan presented a remarkable instance of this alluvial stratification. They were situated near the St. Austell Moors—a high table land, with granitic hills, which, rising over it on all sides, and completely filled in, as it were, with the deposits in which the stream tin was most found, over the deposits at Pentuan, ran a river, below which there was 20 ft. of silt, beneath that 20 ft. of sea sand: then a quantity of sea sand in a different condition; then 10 ft. more of silt, and next a large quantity of vegetable matter; and then the tin was arrived at in the stratum next to the solid rock. These different strata possessed internal evidence of being subjected to the action of disturbed water at different periods, otherwise the tin would have been found disseminated through the whole. There must, therefore, have been a period at which the surface of the lower stratum, containing the tin, was left dry, and at which it produced the vegetable matter—indeed, as proof of this, trees were often found in their erect position. In the midst of those trees, there was a very remarkable evidence of a second action of water, in the fact that among those trees are often found the remains—such as antlers, heads, and bones—of the ancient red deer of Cornwall; and, in one instance, two human skulls, which are preserved in the Museum of the Geological Society of Cornwall, at Penzance. Those skulls were said by phrenologists to bear a nice relation to the phrenological characteristics of more than one oriental people—hence it was supposed that they were relics of the Phœnician traders who, in past ages, traded to Cornwall for tin.

Mr. Hunt here directed the attention of his auditory to a drawing, which represented the works at Carclase—an immense open working, on the St. Austell Moors. Here the decomposed granite was broken, by being subjected to the action of large stampers, headed with iron; the crushed material then passed through several processes of washing, by which all the valueless matter was cleared away, and the pure oxide of tin was left behind. It was not uncommon, in the Cornwall stream works, to find particles of gold. The streamers, as the workmen were called, usually carried a quill, into which they deposited every little spicular of gold they found; and, when the quill was full, carried it for sale to the jewellers of the neighbouring town. These spicular were more generally kept as curiosities, than put to any use.

The auditory were then directed to a large diagram, representing a mass of slate stone, through which the tin appeared to run, in the form of veins, taking, however, no definite direction. Mr. Hunt said that, in this case—for the diagram represented an actual specimen—it was improbable that the stone could ever have been broken at first into such eccentric fissures, and afterwards filled with tin. It was supposed, with greater probability, that the fissure, in the first instance, was a single one, and in one direction, and the tin having flowed in had crystallised. The force of crystallisation was something enormous, and by its agency the mass gradually became more broken, the tin running in and crystallising, and consequently increasing the number of fissures. The power of crystallisation had often been known even to throw open the laminations of the slate rock; and, therefore, this conjecture was a most probable one. Tin was often combined with copper, and in a manner which evidently indicated a galvanic operation. Here another diagram was exhibited, from which it appeared that the copper lodes, when thus associated, were sometimes edged by veins of tin.

The mode in which the lodes or veins of minerals were sought for, was much the same as at a very early period. The old plans were called *costeaning* and *shodeing*—the latter, which was most commonly employed, meant tracing home the tin. This word was derived from the Teutonic, *shutten*, to pour forth. The rule was, that, if the stone was found among in a vegetable soil, the lode was very distant; if on the solid rock, then it was very near. The present plan was to cut superficially across the country, nearly all the lodes of Cornwall running from east to west. There were a few which ran from north to south, but they were generally lead or copper. The tin then having been found and raised—the character of the mines, and the process of mining, he should reserve for his next lecture—from beneath the surface, the ore was subjected to a process of stamping, similar to that which he had before described, by which the mass was reduced to powder; the earthy portions were then washed away; the heavier and valuable ones falling to the bottom were collected. A considerable number of specimens of the ore, in its different stages of manufacture, were exhibited in the Museum of Economic Geology, Craig-court, where he hoped, before long, they would be enabled to illustrate all the mining operations of Great Britain. Where sulphur and bismuth and copper were associated with the tin, it was, of course, subjected to other processes. Sulphur, or arsenic—of which there was after a good deal—were got rid of by means of fire, applied in what were called in Cornwall, "burning houses." Formerly, the copper and bismuth could not be separated from the tin ore; but now a process had been discovered by which that had been done. At the Balliswidden Mine, in the parish of St. Just, the ore was formerly almost valueless from the quantity of copper and bismuth with with it was associated; but now, by subjecting it to the action of sulphuric and muriatic acids, these substances were removed, and the tin left in a state of purity nearly as perfect as that of stream tin.

There were three sorts of tin—namely: grain tin, which was used by the dyers as a mordant for fixing their fine scarlet, and other colours; secondly, block tin, which was found and used in large masses, and was the purest form of the metal; and, lastly, the stream tin. Block tin was sometimes partially crystallised by being burnt in an iron kettle, called a *crock*, and when in such a state of fusion, that the workman could see his face in it, the *crock* is lighted up several feet from the ground, and suddenly the metal is thrown on the ground, producing, by the concussion, a sort of semi-crystalline form. Before the "coinages" were abolished in 1839, a correct statement of the quantity of tin raised in Cornwall was obtainable; but since that period, no such return could be accurately made. From 1748 to 1839 then it appeared, from official documents, that there was very little difference, the quantity varying in each year from 2000 tons the lowest, to 8000 tons the highest amount. The produce, at the present amount, was about 4000 tons, and its value varied from 65*l.* to 80*l.* a ton.

There was a great deal of tin imported from Banca and Malay; and in Germany, where the process was invented, extensive works, at which iron was tinned, were carried on. In 1670, a London company sent one Andrew Yarranton to Saxony to acquire the art, and by that means transferred it to England.

Mr. Hunt concluded his highly-interesting lecture, by describing briefly the uses to which tin was applied, mentioning particularly, that it entered into the composition of bronze and pewter, and was now eminently useful for enamelling iron vessels.

[The next lecture, which will relate to copper, will be given at length in the *Mining Journal*.]

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—The lode in the 18 fm. level end, west of Slob shaft, is at present very small, with a branch of ore about 2 in. wide in it; the stopes in the back of the level, behind this end, are worth about 6*l.* per fm.; in a cross-cut, driven north about 10 fms. behind the end, we have discovered a branch of ore worth about 6*l.* per fm.—we consider this a part of the lode the end is driven on; the stopes in the bottom of this level have been abandoned, on account of the water increasing. The stopes in the back of the 18 fm. level (over Doyle's) do not look so well—worth at present 16*l.* per fm. The stopes in the back of the 12 fm. level, are worth about 8*l.* per fm.; the winze also, sinking in the bottom of this level, is worth 8*l.* per fm. We have discovered a small branch of lead in sinking a winze east of flat-rod shaft, which we hope may lead to something good. In the adit end west, the lode has greatly improved in size and appearance, although still producing only stones of lead; it is about 3 ft. wide—gossan, thinly mixed with led and blende.—Dec. 31.

CUBERT SILVER-LEAD.—Owing to a breakage of the engine, we have been able to do but little in the 35 fathom level in the present week—therefore, there is nothing new to report on from these ends; but I am glad to say at this time, the water is in fork to the 35 fm. level, and will push on the men as fast as possible. In the 25 fm. level west the lode is 1 ft. wide, good saving work, worth from 6*l.* to 8*l.* per fm.—a very promising end indeed. Going west in the 15 fm. level, the lode is 18 in. wide, composed of mundic, spar, and lead, worth (say) 3*l.* per fathom. The tributers are working very well; but there is nothing new in the pitches.

DEAN PRIOR AND BUCKFASTLEIGH.—We are making all the progress we can as to sinking the engine-shaft below the 20, or bottom level; in the 20 fm. level, driving west, the men in the past week have been driving the lode, and will continue to do so a day or two longer before leaving it open, although we have been carrying the leader of spar, &c., that I hinted in my last report as being near the south wall; this leader is of the most promising description; the capels to the north appear to be very large, and water issuing from the lode; it will be necessary, after driving a fathom or two more further west to cross-cut to the north wall, to ascertain its size and quality; the lode in the pitch, in the back of this level, is somewhat improved, and producing some good work for copper.—Jan. 4.

DEVON AND COURTENAY CONSOLS.—The lode in the deep adit level is 2 ft. wide, composed of capel, spar, mundic, and spots of ore; I have removed two of those men to sink in the bottom of this level, about 6 fms. from the present end. The ground in our cross-cut, driving north from the engine-shaft, continues favourable for driving—set on Friday last, to drive at 5*l.* per fm. We have also commenced dividing and casing the engine-shaft, putting in penthouse, &c., preparatory to sinking below the 40 fm. level.—Jan. 4.

DRAKE WALLS.—Brenton's engine-shaft, sinking by nine men—price 10*l.* per fm., good branches of tin. The 50 end, under the arch, by six men—price 10*l.* per fm., tinny, not rich. The stopes, below the 40, east of Brenton's shaft, by 12 men—price 2*l.* 17s. 6d. per cubic fm., tinny, but not so good as last reported; the stopes, below the 40, west of machine-shaft, by nine men—price 3*l.* 7s. 6d., good branches; the stopes, below the 40, east of machine-shaft, by nine men—price 3*l.* 5s. per cubic fm., good saving work. The stopes, below the 33, east of machine-shaft, saving work, but not so good as it has been—price 2*l.* 17s. 8d. per fm., by six men; the 33 end, below the arch, by four men—price 5*l.* per cubic fm., branches small but good; Johnson's new engine-shaft, below the adit, by four men—price 5*l.* per running fm., branches small but good. We hope to sink a few fathoms before the engine goes to work. The remainder of the engine is not yet arrived—it came part of the way up last Tuesday, and put back to Falmouth again the second time. We shall commence drtving west again at the north copper lode next week. We have been driving east a lobby for the last three weeks, to unwater this level at a lower point.—Jan. 1.

EAST CROWNDALE.—Our sumpmen have been engaged during the past week in cutting bearer holes and cistern plot, in order to fix a lift of pumps in the 47 fm. level; the 47 fm. level east is looking very kindly indeed, although it is not at present rich—the lode is about 2 ft. wide, composed of spar, capel, peach, mundic, and copper ore; the lode in the western end, in the 47 fm. level, has not as yet produced any ore; the appearances are very favourable, and I hope, in a short time, to give you a good report of this level. I am glad to state, that the lode in our new engine-shaft, at Rix Hill, continues to produce most excellent work for tin, and, without the least doubt, will be a very remunerative piece of ground to the adventurers; the lode is composed of a greyish elvan, with quartz, mundic, peach, and tin; as to its size, I cannot as yet form any idea; we have in the shaft 4 ft. of it, and shall soon get the north wall—having ordered the stripping of it down to the north wall; the winze, sinking below the adit level, on the south lode, at Rix Hill, I am happy to say, is far better than I expected—a good lode, 3 ft. wide, and good ground for sinking in; the lode is composed of peach and tin; our engine and pitwork are all in good order.—Jan. 1.

EXMOOR WHEAL ELIZA.—We have cut through the lode, which, I am happy to say, is a very strong and promising one, about 3 ft. wide, carrying two regular walls; the underlay south is about 3 ft. in the fathom. The lode is composed of yellow and black copper ore, of a very rich quality, white iron, mundic, and quartz. This day I have put the men to drive both east and west on the course of the lode; and, by the end of this week, I hope to be able to say in my report, we have a good course of ore.—Jan. 4.

GALLOWAY.—We are sinking on the course of the east and west lode; departure of the other lode south is here—so our shaft goes down between the heave. The men have taken 6 fms., at 3*l.* 10s. per fm.—Jan. 1.

HOLMBUSH.—We have intersected a small branch of spar, mundic, and ore. In the 132 fm. level cross-cut, south from the diagonal shaft, underlaying north, the ground is still favourable for driving in that direction. The lode in the 120 fm. level, west of the slide, is 10 in. wide, producing stones of ore; the stopes, above the back of this level, east of the great cross-course, is not so productive as it has been—it will now produce 1½ tons of ore per fm., and is set on tribute. Since the communication is made from the 110 to the 100 fm. level, we have commenced driving east from the former level, to prove if there be another part of the lead lode standing in that direction, seeing so much water issuing from the side of the level; the back of this level is set on tribute to two pares of men, at 8s. in the 1*l.*, on the value of the lead. The lode in the 100 fm. level south is 3 ft. wide, composed of quartz and stones of lead, saving work; the pitches, over the back of this level, are producing some very good lead ores. The 90 fm. level south, on the lead lode, is for the present suspended. We weighed, at Calstock Quay, on Tuesday last, Oct. and Nov. ores, 88 tons 7 cwts. 2 qrs., and sampled yesterday a parcel of silver-lead ores, computed 20 tons—samples of which have been sent to the different companies, to be tendered for at the mining offices, 8, George-yard, Lombard-street, London, on or before the 12th inst.—Jan. 4.

KIRKCUDBRIGHTSHIRE.—The 50 end west has a little improved since last reported. The lode in the 40 end is 4 ft. wide, producing 1 ton per fathom. The lode in the 30 end is 5 ft. wide, yielding ¾ ton per fm.; this level east has not yet been cleared of waste. The setting-sheet will put you in possession of our tribute works, which are, on the whole, looking well.—Jan. 1.

LEWIS.—The lode in the engine-shaft, sinking below the 60 fm. level, is much the same as when last reported; the lode in the 60 end east is 3½ ft. wide, worth 4*l.* per fm., and very promising; the lode in the rise at the back of the 60, on south branch, is 1 ft. wide, worth 8*l.* per fm., and very promising. The lode in the winze, sinking below the 50 fm. level, is 1 ft. wide, worth 9*l.* per fm. We sold on the 31st December tin to the amount of 476*l.* 11s. I am glad to inform you, that the men in the winze, sinking under the 50 fm. level, on south branch, have holed to the rise at the back of the 60 this afternoon, which gives me great satisfaction.—Jan. 1.

MENDIP HILLS.—The lode in the 38 fm. level, south of Stainsby's shaft, is rather increased in size since I last wrote you, being at present about 4 ft. wide, composed of flookan, white spar, iron, and limestone, intermixed with particles of lead in places. In the slag department we continue to press forward with our different operations as fast as possible; the furnaces are completed, and the deposit chambers, with the flues, &c., will also be in readiness for work in a day or two from the present date; the carpenters are busily engaged about the tramroad, which is in a forward state; we have 30 fms. more to lay down, when this part of our work will also be completed in the trench opening across the upper part of the slag ground; we are still cutting through some very good slags; I find the beds in this part extend nearly the whole breadth of the valley, varying in thickness from 4 ft. to 10 ft.—Jan. 3.

TINCROFT.—I beg to hand you my report of these mines, commencing with the south part, on Highburrow lode. The lode in the 142 fm. level, east of engine-shaft, is 4 ft. wide, worth 12*l.* per fm.; the stopes, in the back of this level, are worth 7*l.* or 8*l.* per fm. The lode in the 120 east is 3½ ft. wide, worth 12*l.* per fm. The lode in the winze, sinking below the 110 fm. level, is 3 ft. wide, worth 15*l.* per fm., the stopes, in the bottom of the 110 and 120, are worth 20*l.* per fm. Chapple's lode, in the 90 west, is 4 ft. wide, producing good stones of grey ore; the pitches throughout just as usual. At the north mine, the lode, east and west of new engine-shaft, in the 100 fm. level, is at present unproductive. The lode in the 90 west is 15 in. wide, producing good stones of ore. The lode in the 80 east is 2½ ft. wide, worth 5*l.* per fm. for tin. At Palmer's, the ground is hard, and sinking below the 80 fm. level; the lode in the 80 west is 2½ ft. wide, worth 5*l.* per fm. The lode in the 70 west is 5 ft. wide, worth 14*l.* per fm.; the end coming to meet the latter is worth 10*l.* per fm. The lode in the east winze, sinking below the 70, is worth 7*l.* per fm.; the lode in west winze, under same level, is worth 10*l.* per fm. The lode in the stopes, in the back of the 70, is 3½ ft. wide, worth 10*l.* per fm. The 60 west is producing stones of ore. The 48 west is at present unproductive. At Wheal Providence, in consequence of the late heavy rain, we have been obliged to put the sumpmen to secure the adit, and clear some stuff, which had been brought down by the water. Now having finished the adit, they have resumed cutting bearer holes and cistern plat in the 20 fm. level.—Jan. 2.

TRELEIGH CONSOLS.—Christoe's shaft, below the 110, is sinking in the country—8 fms. 2 ft. under the 110 fm. level; in the 110, east of ditto, the lode is 2½ ft. wide—spar and mundic, with occasional stones of ore, more kindly than it has been. At Garden's shaft, below the 100, the lode is 3 ft. wide—it consists of quartz, mundic, and stones of ore, more kindly; in the 100, west of ditto, the lode is 3 ft. wide, of a more promising character, with stones of ore; in the 100, east of ditto, the lode is 20 in. wide, producing good stones of ore. In the 90, west of ditto, the lode is 2½ ft. wide, more promising, worth 5*l.* per fm.; in the winze, below the 90 west, the lode is 3 ft. wide, worth 20*l.* per fm. In the 80, west of ditto, the lode is 3 ft. wide, worth 5*l.* per fm. In the rise, in the 70, west of ditto, the lode is 1 ft. wide, but little mineral. In the 60, west of ditto, the lode is 2½ ft. wide, but not much ore. The engine-shaft, at Wheal Parent, is suspended, on account of the water. The adit cross-cut, at Wheal Parent, driving north to the new shaft, we expect to hole in about one month, when we shall resume the shaft. Lackett's shaft, below the 10, is suspended, on account of water.—Dec. 31.

WEST WHEAL JEWEL.—In the 57 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is 1 ft. wide, producing stones of ore—driven last month, 1 fm. 5 ft. In the 42 fm. level, east of the little cross-course, on the south lode, the lode is 9 in. wide, producing little ore—driven 3 fms. 4 ft. 6 in. In the 30 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode is 1 ft. wide, unproductive—driven 1 fm. 2 ft.; the cross-cut south driven 4 fms. 6 ft. In the 20 fm. level, west of Quarry shaft, on the same lode, the lode is worth 8*l.* per fm.—driven 2 fms. 1 ft. 6 in.; in the deep adit, west of Quarry shaft, on the same lode, the lode is 15 in. wide, worth 7*l.* per fm.—driven 1 fm. 3 ft. 6 ft.; in the stopes, in the bottom of the adit, east of Pryor's winze, on the same lode, the lode is 6 ft. wide, worth 45*l.* per fm.—stoped last month, 5 fms. 5 ft. In the stopes, west of Pryor's winze, in the back of the 12 fm. level, the lode is 5 ft. wide, worth 35*l.* per fm.—stoped 5 fms. 5 ft.; in the stopes, in the bottom of the 12 fm. level, east of George's winze, the lode is 2½ ft. wide, worth 10*l.* per fm.—stoped 4 ft. 6 in.—Jan. 3.

WEST WHEAL MARIA.—The eastern engine-shaft is down below the 38 fm. level 5 fms., the lode in which is about 3 ft. wide, with a little ore in places; we have suspended sinking this shaft according to your request. The ground in the cross-cut south, in the 54 fm. level, is without any important alteration.

WHEAL ADAMS.—We have cleared the 50 fm. level south, and find, by our dialling, that we have to drive 3 fms. east to cut the quartzose lode, which will be accomplished as soon as possible; the eastern lode has not been taken down this week; but we hope to open on it, in the 50, in the course of the present week, as the flookan, to which I called your attention last week, is dipping south; and we are inclined to believe that the lead ore will be found to dip in this direction also. We have resumed opening ground in the 18 fm. level, and have discovered a little copper and lead, which will pay for taking away. The pitches, on the whole, are not looking quite so well as they were last week. The middle branches contain quite so much mineral in the upper, as they do in the lower, levels; but, in the former, there is much more antimony and less lead and silver, although there is no difference in the appearance of the ore. We are preparing another parcel of lead for market with every possible dispatch, and are, at the same time, dressing blende.—Jan. 4.

WHEAL CURTIS.—*Dec.* 18.—The lode in the 30 fm. level continues to look well for ore; there is about 2 tons in each fathom, worth about 6*l.* per ton. The sumpmen in Fegan's engine-shaft have reached ground, which is rather easier to excavate. Evans's shaft is sunk to within 9 ft. of the adit level.——*Dec.* 27.—In reply to your list of queries, I beg to say there are about 8 tons of copper ore at grass, and about 2 tons broken ready to be brought to surface. We commenced driving the 30 fm. level, west of the flat-rod shaft, on the 10th Dec.; shortly after we discovered the ore in driving the end west, since which time most of the ore has been broken, although some old pitches were set at an earlier period. From the present appearance of the 30 fm. level end, and taking into account the three old pitches (which the men continue to work), and the new pitch set to-day, we calculate to break during this month about 25 tons of copper ore.

WHEAL TRELAWNEY.—Phillips's shaft is sunk 7 fms. under the 52 fm. level—the ground is favourable for sinking. The lode in the 52 fm. level, north and south, is very similar to my last report; the stopes in the back of this level are producing a fair quantity of ore. In the 42 fm. level north, there is still a large lode, and worth 12*l.* per fm.; the stopes in the back of this level are without much alteration. We commenced sinking a winze last week in the bottom of this level north, where the lode is looking well, but cannot proceed at present in consequence of the water. The 32 fm. level north will produce about 12 cwts. of lead per fm.; the stopes in the back are producing a good quantity of ore. The ground is eased a little in the 42 cross-cut west. The 22 cross-cut east is not much changed since the last report. At Vivian's we are still stoping the bottom of the winze preparatory to our driving north. We sampled 72 tons of ore on Friday last, which will be sold on next Saturday.—Jan. 4.

WHEAL MARY ANN.—The lode in the 40 fm. level, south of the northern boundary, is still small. The lode in the 30 fm. level, south of Barratt's shaft, is 1 ft. wide, and will not at present produce much lead; but are daily expecting an improvement here, as there is a splendid lode gone down before this end, from the level above. The lode in the 15 fm. level, south of Pollard's shaft, is much the same as was last reported; the stopes generally are looking very well. Pollard's shaft is sunk 10½ fms. under the 15 fm. level.—Jan. 3.

FOREIGN MINES.

ANGLO-MEXICAN MINES.—*Guanaxuato, Sept.* 24.—Asuncion has left us a profit on the nine weeks ending September 18, of only $507 4; but I hope for rather better results throughout the next month.

Jan. 3.—By the mail which arrived this morning, the board have received, from Mr. Brough, the arrears of his correspondence, which the disturbed state of the communications had prevented his sending forward before. The profits on the Asuncion Mine for the seven weeks ending the 6th November, amounted to $342 4 7. Mr. Brough announces, that he has entered into a contract for working a portion (one-half) of the pertenencia of Milanesa, adjoining Asuncion, on what he considers favourable terms for the company. This agreement is to continue in force as long as the company continues the avio of Asuncion. The board are unable, at present, to give the proprietors any precise estimate of what this new acquisition may be expected to yield, but their next advices from Guanaxuato will, doubtless, throw more light on the subject. The finance statement shows assets to the amount of $27,416. Mr. Brough's letters come down to the 19th of November.

BOLANOS MINES.—*San Clemente, Nov.* 18.—*Bolanos Transport.*—They have arrived with the greater part of the San Jose engine at the Bote, conveyed in nine waggons, and a number of carts of the country, and there still remains in Salitre sufficient for about two more trips with the waggons; but all the heaviest pieces are already here, and the removal of the remainder will be attended with much less difficulty. After concluding the transport of this engine, the waggons will be employed in bringing away a quantity of heavy pieces belonging to various classes of machinery; but, as the dry season is now set in, we shall have fewer impediments to contend against. The remainder of the smaller stones will also be remitted immediately by mules; and I calculate that, by the beginning or middle of February, we shall have nothing left in Bolanos but the Guadalupe engine, and the hacienda de Fundicion.

CELESTINA MINE.—The workings have deteriorated very much since the date of my last, the ends being nearly destitute of ore. The cross-cut driving towards the Celestina vein must be wanting but a short distance of cutting it, and if this work be unsuccessful, and there be no improvement in the ends on the Mayorazgo lode, it may be necessary to suspend all tutworks, and reduce the establishment as much as possible, until further instructions from you.

SAN FRANCISCO DE PAULA MINE.—This mine has continued nearly the same in the workings on ore. Two of the tutworks have been stopped, and this week the cross-cut at the fifth level, about 20 varas below the fourth, has been commenced, and a very few varas will undeceive us with respect to the quality of the vein at that depth. If this trial should prove a failure, I shall stop all works which are not in fruits, and shall extract what ore we have in sight, also awaiting your instructions. I now regret that I should have been so precipitate, as to determine on deepening the shaft, before knowing your pleasure; but as I found this could be done without diminishing my resources, I was unwilling to lose time while waiting an answer. The mines now, however, are in a much worse state, and I shall, in consequence, conclude the trials as speedily and cheaply as possible. The taxes on silver have not varied; the contemplated withdrawal of the extra real of Mineria not having been carried into effect, on account of a disagreement between the Legislature of the state and the governor. Quicksilver has fallen somewhat in price.

San Clemente, Nov. 18-19.—EL BOTE MINE.—Since my last communication to you, dated 20th ult., I have the pleasure to inform you, that San Genaro shaft has been sunk to the depth of Constancia level, and about 4 varas below, and that we are now busily employed in cutting a plat in the west end of the shaft for the Victoria cross-cut. In the cross-cut of San Jose we have cut a small, but barren, vein, about 2 varas wide, and about 36 varas from the shaft. I herewith beg to hand you the accounts and settlements of last month. I am sorry they are not so satisfactory as they have lately been, but you are already aware of the causes of the falling off in the extraction of ores. The whims are just sufficient to keep the water down below the Compania cross-cut, and when one is taken off for the extraction of cargas, it immediately rises on us. In the Compania cross-cut, in the last week of October and the first of this month, the water was so strong, that we were only able to work five days in that time. At present the water is easily kept down below the cross-cut; and if no impediment takes place, I fully hope, when I next have the honour of addressing you, to be able to inform you, that the lode has been cut, the planes completely dried, the extraction again in order, and the mine leaving good profits. The water having driven us out of the planes of the east, the extraction of ores since I last wrote to you has been nearly confined to the Poza de Guia and the planes to the west. The ores extracted from these points are very good—so much so, that the two last tortas of Comun have assayed 9·20 mcs. and 10 mcs. per monton; and one Ordinario 7·23 mcs.; and the present aspect of these labores is very cheering. More men might be put down, and the extraction augmented, but at present a whim could not be spared to take it out. The workings of San Antonio have fallen off considerably. In the east end of Guadalupe I am happy to inform you, that since the beginning of this month there has been a gradual improvement in this point, and a few ores are already making their appearance. The vein is widening out, and I hope that we will soon meet with good ores again. Ores raised in October, 5812 cargas; profit, $4317.

IMPERIAL BRAZILIAN MINES.—*Gongo Soco, Oct.* 23.—I regret that the mine remains without alteration. Our gold returns have certainly improved, but this is only in consequence of our breaking up the roads, the beds of old stumps, and other superficial heaps of the rubbish, deposited during years of richness. The want of surface water still forbids our resuming the draining of the mine at Bananal; every part of the old machinery has, however, undergone thorough repair, and we wait only for the rains, in order to set the pumps in operation. The greater part of the sawmill has been removed, and the masonry will permit us to commence its reconstruction during the next week. The new rego is complete to the mine, but the dry earth will, for some time, absorb most of the water entering it. Additional accommodation, sufficient for about 15 labourers, will be in order during the present month; and the black's kitchen is now in use. The covering in of the new storehouse, washing-house, and captain's watch-room, has been commenced; and we hope to prepare an officer's house, or two, before the rains set in, sufficiently to employ the carpenters, at full work, under cover, during their continuance. The larger portion of the new pumps, for Walker's shaft, is on the mine, and the axle for the new water-wheel is in a state of forwardness. The wheel-pit goes down well, and the lower part of the adit is in rapid progress—everything within our means is forwarded with every expedition consistent with perfect efficiency; and, I am happy to say, all our people further our wishes, to the utmost of their power. Our stores are well stocked with provisions at both establishments, and, I am happy to add, on most reasonable terms.

Nov. 3.—The long-continued poverty of Gongo is still unbroken by any circumstance calling for remark. At Bananal, the new adit and the wheel-pit are advancing rapidly; the works of the sawmill are making a very satisfactory progress, and the captain's watch-room, and the washing-house, are in a forward state. Every other branch of your service is prosecuted with the utmost vigour, and we hope to be fully prepared for the rains, which are now near at hand. You may rely, that we shall commence working on the gold vein the moment we can drain the mine. Gold workings from Gongo Soco for nine days, from the 21st to the 30th of October—9 lbs. 7 ozs. 5 dwts.

PACHUCA MINES, *November* 27.—In accordance with the plan proposed in my last, the works have been confined to the trial at San Guillermo shaft, which only requires to be sunk 2 varas more to reach the depth of the proposed new level—viz.: 30 varas below the 50 vara level, when we propose driving west a little way, and then cross-cutting the vein. That part of the lode on which the shaft is sinking continues large, and composed of white quartz and gossan; but I hope to find an improvement in the deeper level on the south part, on which we found some ore in the 50 vara level.

REAL DEL MONTE MINES.—Extract from a letter, dated *Mineral del Monte, Nov.* 27; received Jan. 3, per the *Severn*:—

I am in receipt of your dispatches of Sept. 30, and take due notice of their contents.

Mines—Biscaina.—The principal work carrying on has been the trial making in the bottom of the San Pablo winze, by means of the 216 vara level, driving west. This level has been communicated to the workings of San Enrique, on which 12 barreteros are now employed stoping in the bottom. The vein averages rather more than two varas wide, composed of azogue, and a small portion of smelting ore, but the quality of the latter is not so good as we found it above. We now propose to remove the pitwork from San Pablo winze, 25 varas further west, and sink a new winze below the bottom, on a more productive part of the vein. We calculate, if no increase of water should occur, that we shall be able to sink in this place from 25 to 30 varas deeper, which will afford means for making a good trial of this ground. We also propose to drive a cross-cut south in the 216 vara level, a few varas east of San Pablo winze, in order to examine that part of the vein where it is under and clear of the slide. The driving of the Aviadero adit, north of Dolores, will be immediately resumed, which is a very important and desirable work, inasmuch as it will explore a great length of the whole ground under old workings, which have been very productive; another inducement for pursuing this, is the promising appearance of the San Isidro level, driving south of El Sacramento. The workings on the Tapona vein, above and below the 157 vara upper level, give about 100 cargas per week.

Santa Ynez.—By the ore report, you will perceive that the produce of this mine has of late been gradually increasing; and from the ore ground now laid open, we are enabled to increase it still more. We have lately commenced driving in the Aviadero level, north from the Biscaina, near Terreros, and which, after a while, will drain the workings of Santa Ynez and San Vicente, 83 varas deeper than they are at present.

Acosta.—It is satisfactory to observe, that we have been enabled during the past month to go on with the sinking of San Pedro shaft, which is now 17 varas below the San Enrique level; and if the increase of water we may expect in cutting the Santa Brigida vein in the ensuing month, is not more than the two engines can manage, I trust we shall be able to sink to the depth of 30 varas, and drive a cross-cut south to the Acosta vein, and continue the level eastward upon it. The principal labores in this mine are in the San Cayetano bottoms, on the Santa Brigida vein, about seven and a half varas below the Aviadero level; but we cannot go any deeper at the present, on account of the water, which we expect will ere long be drained by the San Enrique level. The workings above this level have produced, in the last three weeks, including Acosta vein, 1037 cargas of azogue ore, and 56 cargas of smelting ore, which latter came from La Luz. Some time since, we drove the Guadalupe, or 40 vara level, east of Santa Brigida, on a part of the Acosta vein; and having reason to think that another part of the vein remains unexplored to the south, we have commenced a cross-cut towards it, having only a few varas to drive.

El Sacramento.—I have already noticed, that the San Isidro level south is in a very promising vein, producing a small quantity of good ores. The labores continue just as usual, and produced, in the last three weeks, 654 cargas of azogue ore.

Moran.—The erection of the 19-in. cylinder engine was completed on the 8th inst., and it was put to work on the same day, being 18 days beyond the time calculated on, which was principally attributable to the continued heavy rains during the time. The engine works well, and drained the water from Santa Barbara shaft immediately. The labores, on the whole, are looking very well, and we expect the returns will be sufficient to keep six or eight furnaces constantly employed at Regla.

Rosario.—By Capt. Rabling's report of this date, you will notice he describes several places, containing ores of 9 or 10 marcs per monton; but the ground in general is very hard; and, owing to a scarcity of barreteros, the raisings of late have been less than usual. By the account of costs and returns, you will perceive that the mine has, of late, been about paying the costs; and I trust, that when a larger quantity of ores is raised, we shall make some profit, and as we go deeper it is probable the ley of the ores will improve.

Costs and Returns.—By the statement for October herewith forwarded, there is an apparent loss shown of $8981, the reason of which you will have noticed in my letter of the 28th of October—viz.: the delay in the arrival of quicksilver from Tampico—besides this you will see, by the hacienda reports of this month, that 53 bars of silver were produced—whereas, only 50 are credited in the account, owing to three of Sanchez bars not coming up to the required standard of 11 dineros, and being, consequently, left behind to be refined, and will, therefore, be included in this month.

UNITED MEXICAN MINES.—*Guanaxuato, Nov.* 19.—*Mine of Rayas.*—No change has taken place in the workings of this mine since Mr. Glennie last addressed you. Those of the San Cayetano, and the whole of that division of the mine, continue in the same unproductive state as was then reported, while that of Santo Toribio keeps up its produce, both in quantity and quality. By the additional power brought to bear upon the water with our new horses, we have now succeeded in stopping its increase, or nearly so, and I hope in my next to be able to inform you, that it is once more decreasing. Annexed is the usual comparative statement for the last four weeks, by which you will observe, that the half sales have recovered the small depression of that of last month, though there is a decrease in the quantity of picked ores entirely from San Cayetano.

4 weeks ending	Picked Ores.	Half Sales.	Outlay.
Oct. 16 ……Cgs.	1800 ……	$5486 7 0 ……	$20,416 3 4
Nov. 13……	1635 ……	5904 1 0 ……	18,048 1 4
Cgs.	165	$417 2 0	$2,368 4 0
	Decrease.	Increase.	Decrease.

Quicksilver.—I have just received the 150 bottles shipped, per *Teviot*, in July last. In one week they will be all employed in the haciendas, and I shall have to make further purchases immediately.

Report on the State of the Workings of the Mine of Rayas.

October 23.—*La Purisima* continues to give a small quantity of the common class of tierras, and an inconsiderable portion of azogue of good ley.

San Lorenzo.—The points hitherto worked in this division of the mine, have become so far exhausted, as to render the removal of the barmen necessary; there is still a small portion of ore in the higher part of the points, that may be extracted as soon as proper security has been given to the upper part of the lode; at present, the extent of the working is such as to cause danger if any further enlargement of the cavity should be attempted. From San Pio a fair extraction of common ores is obtained, and from a point between this and San Lorenzo, called San Antonio, a small quantity of ordinary ore, containing bunches of good quality, is likewise extracted. The produce of the working of San Juan has become so scarce, and at the same time of so ordinary a description, that the barmen were removed last week, and the point given over to a buscon; five pairs of barmen are now employed by day, in San Pio, and San Antonio, and an equal number by night.

Santa Cecilia.—In four weeks this cross-cut has been driven 8·48 varas, the ground through which it has been advanced preserves the same general formation as heretofore. The workmen are now paid $55 per vara.

San Miguel.—The ores being rather scarce in the pit of Inocentes, the workmen have been removed for the present to the point where the communication between the despacho of the shaft and the road to Santo Toribio is being made, which will soon be completed, as it is being driven at both ends; six pairs of barmen are employed by day, and an equal number by night. Some bunches of rich ore are found, together with a small quantity of common ley.

Santo Toribio.—The bands of ore in the roof of La Merced, and the end, Santo Toribio, are yielding a fair portion of very good ore; and as the lowest is observed to be running into the lower part of this division of the lode, a cross-cut has been commenced in the original level, which will soon reach the point corresponding with this band, supposing it to extend towards the north-west. In the pit and end of San Miguel, the produce is inferior to that of the roof, and, although still of very good quality, there is a good deal of variation in the lode, more particularly as regards the band found against the upper part of the pit. An end (San Damian), on the north-west side of the pit, has been opened on good ore. Nineteen pairs of barmen are now employed by day, and an equal number by night. The weekly produce of ore averages 200 cargas. Five pairs of men are still employed by night in increasing the height of the lode leading to this point, by which operation the ventilation is being improved. Another work is also being carried on, both with the object of still further ventilating the point, and also of facilitating the extraction of the rubbish. This is being driven at "destajo," and the men are paid $30 per vara, exclusive of powder, candles, &c. When completed, there will be a direct road from Santo Toribio to the pits of Dios Padre, whence a current of air can be carried into the new working, and the present rate of expense for the extraction of rubbish be somewhat reduced. The water at the lower part of the mine is now nearly stationary by day, but it rises by night. Seventy additional horses have been bought, with which, when they are broken in, two more malacates will be set to work by night. The number now at work on the drainage of the great shaft, is six by day and three by night; one of the latter number is, however, always employed in the "pileta," where the water of a spring, at a depth of 200 varas, is collected. In the points worked on joint account by buscones, there is nothing that calls for particular notice on the present occasion.

Nov. 18.—*La Purisima.*—The produce from this side of the mine does not vary.

San Pio and San Antonio.—The extraction of ore from these two points, although not considerable, is of a very fair quality. In the former working, a communication has been opened with an old point filled with rubbish; the lode immediately around the point of communication, containing good ores, is being gradually removed, and its place is being supplied by a substantial dry wall. In San Antonio, the ores are met with against the north-west side of the lode, where there is a large extent of untouched lode; but other workings above and below this, that have been driven in the same direction, have not advanced far in ores. There are seven pairs of barmen employed by day, and an equal number by night.

San Cayetano.—Within the last fortnight a small portion of good ore has been procured from a pillar on the north-west side of the pit of La Luz, which can be reduced without danger. The work here is carried on by day only, and 2 pair of men are employed.

Santa Cecilia.—Since the last report, 7·37 varas have been driven in this cross-cut, without any particular variation in the character of the lode having been observed. The extent of the lode already cut through in this working, without any marked division of the middle body having been met with, far exceeds that in any other point of the mine appertaining to the middle body of the lode.

San Miguel.—The communication between the "despacho" and the road leading to Santo Toribio was opened three weeks ago, and the extraction of ore and rubbish from that working is thereby much facilitated. The other work of communication is in pro-

grass between the two cross-cuts of San Miguel, which, when concluded, will improve the ventilation of Santo Toribio—(see last report.)

Santo Toribio.—The roof, la Merced, contains a fair quantity of good ores in bands, from which offsets in narrow threads branch in various directions; this point is being carried up on rather a more reduced scale than formerly, as an end to the north-west has been opened on good ores against the lower part of the lode, and it is necessary to leave a pillar between this end and the roof. The cross-cut in the original level, mentioned in last report, is just beginning to reach the point of the lode that corresponds with the above-mentioned end, and some narrow threads of ore have been cut. The bands of ore in the ends, Santo Toribio and San Miguel, have become something narrower in the advanced points, but their quality appears to vary little. In the pit frequent variations are observed in the quality of the ores against the upper side, but some rich stones are occasionally thrown down. The ore that crosses the middle of the pit is not subject to such variations. Little work is carried on in the end San Damian; it is a central point, and most of the detached lode from all the other points is thrown into this end by the shoots—consequently, it is seldom in a workable state, when the fresh sets of men go down the mine. Twenty-four pairs of barmen are now employed by day, and an equal number by night. Last week's produce was 240 cargas. A respa of 19 arrastres, in which the ores from this working had been ground separately, has been made; and the result is, that 3 mcs. per monton were deposited in the arrastres, with a ley of gold of 99½ grains per marc. The water in the lower part of the mine continues nearly stationary; the new horses are now gradually coming into regular work, and there is every probability that, with this additional power, an impression will soon be made on it. There is a slight improvement in the half sales, owing to an increase of ore from some of the points worked on joint account by buscones.—G. R. GLENNIE.

ROYAL SANTIAGO MINING COMPANY.

The half-yearly general meeting of proprietors was held at the office of the company, Broad-street-buildings, on Wednesday, the 5th inst.,

Baron de GOLDSMID, in the chair.

After the usual preliminaries, the following report was read:—

REPORT.

The report and statement of accounts for the half-year ending 31st August last, which the directors now submit to the proprietors, are necessarily brief, as more than four months of that period have been required to lay open the old workings in the Descubierta Mine, and to sink the new shaft to communicate therewith, and, by cross-cuts, to prove the adjoining pertenencia. On clearing out the Descubierta Mine to the old bottoms, a promising vein was laid open, from which 107 tons of ore were obtained in July and August, and 300 tons in the subsequent three months, which the manager reports is of superior quality. Encouraged by the favourable appearance of the mine, and the improvement of the vein as it descends, the manager is extending the works to develope the lode at a considerably deeper level, under the expectation that it will be found productive and profitable. The works in the St. Andrew Mine, for the discovery of the rich lode which was cut off by the slide, have lately been suspended. No change of strata or mineral veins was encountered to justify the heavy cost of sinking the new shaft for ventilation, which had become indispensable.

By the annexed abstract of accounts, there will appear an excess of expenditure over the receipts of 5906*l.* 12s. 6d. for the half-year—leaving a balance of money capital of 40,875*l.* 19s. 3d. The raisings of ore to the end of November (the date of last return), will, by estimate, produce a small profit, and a cargo will be shipped from the mines in the course of this month.

It is a mortifying circumstance to the directors to have to report a loss monthly upon the last half-year's operations—though it is the first occasion since the constitution of the company—and they hope that the late reduction of the expenses, and the improved prospects of the mines, will enable them, at the next meeting, to submit a more satisfactory statement to the proprietors. By that time the directors entertain the expectation that the position of the company will enable them to ascertain what capital will really be required for conducting the affairs of the company; and they assure the proprietors, that they will recommend a division of at least some portion of the accumulated profits at as early a period as they feel that can be done consistently with the interests of the company.

Abstract of Balances, 31st December, 1847.

Money at interest at bankers and Bank of England	£40,785	10	7
Ore, per *Sunbeam*	720	0	0
			£41,505 10 7
Steam machinery account			600 0 0
Sundry accounts, being the expenditure in current half-year, ending 29th Feb. 1848, against which have been raised 305 tons at date of last advices			1,499 13 7
Total			£43,605 4 2
Working capital on 28th February, 1847	£47,382	11	9
Since reduced by loss on half-year ending 31st Aug. (particulars as under*)	5,906	12	6—41,475 19 3
Unclaimed dividends			17 10 0
Sundry accounts (in course of payment)			2,111 14 11
Total			£43,605 4 2

* *Particulars of the Profit and Loss Account—half-year ending 31st August,* 1847.

To expenditure in wages, mining materials, timber, carriage, law and miscellaneous expenses, &c.	£7640	13	7
Income tax	201	7	1
Total	£7842	0	8
By interest on capital, &c.	£1215	8	2
Estimated net proceeds of ore, per *Sunbeam*, being the part of her cargo appertaining to the half-year	720	0	0
Balance carried to the working capital account	5906	12	6
Total	£7842	0	8

The report, with the accounts, having been read, the CHAIRMAN expressed his readiness to afford such further information as might be required by any proprietor present—whereupon

Dr. SNOW, at the same time that he expressed his satisfaction with the report presented, would wish to ascertain from the chairman what was the position of the company with reference to the Sanctuary ground—a matter to which he attached some importance, but which was in no way adverted to in the report then read.—The CHAIRMAN, in reply, stated that certain proceedings were contemplated, which rendered it a matter of policy, on the part of the directors, that they should not promulgate their intentions: he trusted that the confidence which had heretofore been reposed in the board, would be found, in the future as in the past, not to have been misplaced; and it was only under the peculiar circumstances in which the company was placed, that the subject noticed by the worthy proprietor had been omitted, while the attention of the directors was alive, and anxiously directed, to the object in view—that of obtaining justice for the company. At the same time that he declined entering into particulars, for the reasons assigned, he had no hesitation in expressing his conviction, in which he was joined by his colleagues, that the Cobre Company, who had taken possession of the disputed ground, and who were now working the mine, had no legal title, while any moral claim was quite out of the question; and he considered that, eventually, they must account for the ores raised by them. It was, however, as the proprietors were aware, a delicate and difficult question to determine, under all the circumstances attending the proceedings, the course which should be pursued; but he could assure the meeting, that no measures would be left untried to secure to the company their undoubted rights; and at this moment the subject was under consideration, as to the nature of the steps it might be most desirable to adopt, and the directors were awaiting advice so as to guide them. It was true, that the Cobre Company had taken possession of the property—but whether they could retain it, was quite another question; it was certainly the intention of the directors, in one way or other, to have the point decided—at the same time money would not be uselessly thrown away in the pursuit. He (the chairman) would avail himself of the opportunity of offering one or two observations on the accounts submitted to the meeting, more especially with reference to the position of the mine. It would be observed, that a loss, exceeding 5900*l.*, had been incurred, which was attributable to the expenditure incurred in the months of July and August last, during which period only 107 tons of ore were raised—leaving the loss referred to; while, in the succeeding months of Sept., Oct., and Nov., the quantities raised were respectively 92, 102, and 104 tons, or 298 tons in all, which was about equal to the cost incurred during that period. It was right he should state, that certain points of expenditure in the preceding months had been abandoned, while the present operations, and those contemplated, were such as would justify him in holding out expectations of profit in the forthcoming half-year. At one of the mines possessed by the company, the Cobre Mining Association held the adjoining pertenencia, and had worked the lode to within 3 feet of the boundary; it was intended to sink a shaft to a depth corresponding with the workings of that company, and extend the levels, so as to meet the ore ground. He would now approach another subject, to which the board had directed their attention—that of the reserve fund, which, as shown by the accounts, amounted to 40,785*l.*; and it was the opinion of the directors, that a portion of this sum might, with propriety, be divided among the shareholders—more especially as a certain part thereof was not capital, or a portion of the amount subscribed, but had been taken from, and was, in fact, an accumulation of, profits. He thought it right to state thus much, but, at the same time, he must add, that, under all circumstances, with the proposed extension of their operations, and also the open question as regards the Sanctuary ground, it had been thought more prudent to defer the appropriation of any part of such sum until the next half yearly general meeting in July, when they would be prepared to offer a recommendation to such effect to the proprietors; and when, he trusted, from the prospects which presented themselves, that a surplus would also arise over their outlay, from the increased productiveness of their mines. He trusted that the information thus conveyed by him (the chairman) would be deemed satisfactory; at the same time, that he had only to repeat, he should be most ready to afford any reply to such questions as might be submitted by any shareholder present.

The SECRETARY read the correspondence received on that and the preceding day from Mr. Michell.—A conversation took place on the contents of the letters, and a map, or ground plan, laid on the table, was explained by the chairman.

The report, with the accounts, having been adopted, and ordered to be entered on the minutes, some general observations were made by Mr. Lea, Dr. Snow, and others; when thanks having been voted to the chairman and the board of directors, which were duly acknowledged, the meeting adjourned.

WHEAL CURTIS MINING COMPANY.

The first general meeting of the shareholders in this company, under the provisions of the Joint-Stock Companies Act, was held, pursuant to advertisement, at the Guildhall Coffee-house, on Wednesday, the 5th inst.

M. STAPLEY, Esq., in the chair.

The advertisement convening the meeting having been read by the Secretary, Mr. BULL (the solicitor of the company) proceeded to read the report, as follows:—

REPORT.

The directors of the Wheal Curtis Copper Mining Company, in conformity with the 76th article of the Deed of Settlement, under which the company was constituted, have now to present to the shareholders assembled a written report of the present state and condition of the company; and they apply themselves to their duty with the greatest satisfaction—inasmuch as, notwithstanding the trying crisis through which this company, in common with all others, has recently passed, their affairs will be found to be progressing to most favourable results, and bid fair to realise profits, even beyond those which were held out to the public upon the first formation of the company. It will be remembered, that at a meeting of the shareholders, held on the 18th of May last, when the Deed of Settlement was approved and adopted, that the expenditure on the works of the mine, up to the 31st of March then last, exclusive of the cost-sheet for Feb., March, and April, amounted to the sum of 4891*l.* 18s. 8d.; that the merchants' bills, including the cost-sheets for the three months, amounted to 1786*l.*—making together 6677*l.* 18s. 8d. That to meet the expenditure, there had been raised, and supplied from deposits paid on shares disposed of to the public, the sum of 3405*l.*; and the residue, 1486*l.* 18s. 8d., was raised from advances made by private individuals upon the credit of the company; and the directors found, upon their coming into office, that the liabilities of the company, including the advances so made, as aforesaid, amounted to the sum of 3272*l.* 18s. 8d. At the same meeting, it was resolved, that a call should be made of 10s. upon all the appropriated shares of the company; and that each shareholder should receive a bonus out of the unappropriated shares, equal to two-fifths of the number of shares upon which he, or she, should have paid the call, with the first call of 10s., and deposit 30s. written off. The directors felt it to be their duty, out of the first call, to pay the cost-sheet (370*l.*) due on the mine, to the end of April; and finding that of the liabilities of the mine 1400*l.*, or thereabouts, were due to various merchants, for materials and goods supplied, they deemed it prudent, before incurring fresh responsibilities on the part of the company, to put these in a train for gradual liquidation; and accordingly they deputed one of their body, Richard Hallett, Esq., to proceed to Cornwall, and effect this object. Mr. Hallett thereupon proceeded to Cornwall, and had interviews with most of the merchant creditors, who very liberally agreed to take bills at four and six months' date for their several accounts; and the directors, in conformity with the Act of the 7th and 8th Vic., cap. 110, and the 118th article of their Deed of Settlement, gave their bills accordingly. Upon coming to this arrangement with the merchants, the directors, with a view, under the pressure of the times, to diminish the current expenses, instructed their purser to proceed with such works only as were absolutely necessary to prove the mine, and to show to their shareholders (at as small cost as possible) the value of the enterprise, upon which they had embarked their capital.

The works of the mine have proceeded up to the present time, with the resources placed at the disposal of the directors, aided by loans, made by individual directors. The shareholders will perceive from the balance-sheet annexed, by way of appendix to this report, that there have been received, on account of deposits, calls, and advances, by directors, 7405*l.* 10s. 4d., which has been applied in the acquisition of available property to the company, amounting to 4221*l.* 4s. 7d.; and that the outlay upon the mine, in respect of labour, &c., and including the expenses of the company's establishment in London, amounts to the sum of 3184*l.* 5s. 9d.—that the sum remaining to be received from sundry debtors and unpaid calls amounts to the sum of 3759*l.* 9s. 10d.—that the liabilities, including loans by directors, amount to the sum of 2759*l.* 12s. 10d.—and, consequently, exclusive of the available property of the company, when the calls shall have been paid up upon all shares, there will be a balance in favour of the company of the sum of 999*l.* 17s., which balance, upon the payment of the calls, the directors have great confidence, from the recent reports they have had the satisfaction to receive from the present managing captain of the mine, and from the purser, will be more than adequate to carry on the future operations of the company, and prevent the necessity of the directors making a further call upon their shareholders.

The Deed of Settlement having been prepared previously to the resolution of the 18th May last, which appropriated, of the shares then undisposed of, a bonus equal to two-fifths of the number of shares upon which each shareholder had paid his or her call; the directors found, upon proceeding to give effect to this resolution, that they could not legally do so without a supplementary deed. This deed has been duly prepared under the advice of counsel, and remains for execution by the shareholders; and it will be at once apparent, from the delay which the preparation of the supplementary deed has necessarily occasioned, that the directors have not as yet been in a condition to receive the instalments of the subsequent call upon the shares thereby intended to be appropriated, and this has served in some measure to increase the arrears of calls remaining due to the company; the engrossment of the supplementary deed will be read at the meeting of the shareholders, and it is requested that each shareholder will at once execute the same, that such shares may be forthwith issued.

The directors finding, in the month of October last, that the weekly reports from the mine were conflicting and unsatisfactory, deemed it necessary that two of their body should proceed to the mine, to ascertain the true state of affairs there, and more particularly the underground operations. Mr. Evans and Mr. Stapley accordingly repaired thither; and having called to their aid the services and advice of several eminent miners in the neighbourhood, they came to the conclusion that the underground operations had not been performed with adequate skill and judgment, and that much money had been uselessly and lavishly expended, from which little or no returns could be expected; and the directors, in conformity with the powers given to them by the Deed of Settlement, were reluctantly compelled to discharge Mr. James Crase from being any longer the managing captain of the mine of the company. Capt. Crase having thought proper to institute proceedings in the Stannaries Court, to recover wages alleged to be due to him since his discharge, as aforesaid, the directors forbear to state further the grounds for his discharge; but they feel confident that, when the subject shall be brought under judicial investigation, they will be amply justified in the course they have pursued; but, however this may be, they feel assured that, before the closing of this report, they will be upheld by their shareholders in what they have done.

The directors, upon the discharge of Capt. Crase, appointed in his stead Capt. Thomas Richards, of Marazion, as the managing captain of the mine; and since this appointment, which was made on the 23d day of October last, they have the pleasure to inform their shareholders, that the underground operations have proceeded with such success, as to afford a reasonable prospect, not only of paying her cost, but of realising a gradually-increasing profit to the company, so as to give a permanent value to the shares.

The extent and value of the last-mentioned operations will be found in extracts from the purser and Capt. Richards, appended to this report; and when it is considered that the ore raised has been discovered at shallow levels, supposed to have been worked out by the former owner, Captain Teague, there can be little doubt, when what was accomplished at the adjoining mine of Wheal Abraham is considered, that from the lower levels of Wheal Curtis, there will be raised copper ore sufficient to satisfy the most sanguine expectations of the shareholders, and that the mine will become to them a valuable and permanent investment.

But the directors cannot conclude this part of their report, without recommending to their successors in office the most rigid economy in the funds placed at their disposal; that they should, if possible, so limit their operations, that the mine may pay her own cost, and that her resources may be developed from her intrinsic worth—in a word, that the working of the mine should cease to be a speculation.

The directors beg to thank those shareholders who, by their prompt payment of the calls, have enabled them hitherto to meet their engagements; and although they have to regret the heavy amount of the arrears upon the last call made by them, yet they cannot entertain a doubt, from the individual respectability of their proprietary, but that the calls will henceforth be promptly responded to; and they beg further to state, that they have refrained from resorting to the powers of forfeiture, and other remedies reserved to them in the Deed of Settlement, from a feeling, that those who have been the first to embark in an enterprise which, in its incipiency, is for the most part deemed speculative and hazardous, should reap the fruits of their outlay, when success is all but certain. However, the directors feel that their successors would not be doing their duty by the shareholders who have paid up their calls, if they permitted the prospects of the company to be injured by the continued default of the shareholders who have not as yet paid their call; and as the powers in the Act of Parliament, as well as in the Deed of Settlement, are of the most ample description, they would recommend to their successors, after sufficient time has been allowed for the circulation of this report, to put them in force against all defaulting shareholders. In conclusion, the directors beg to assure the shareholders, that they have devoted their best energies to the interest of the company, and that they shall esteem the approval of this meeting an ample reward for the months of labour and anxiety bestowed by them, in having brought, as they trust the sequel will prove, the concerns of the company to their present state of prosperity, when the shareholders of the Wheal Curtis Mine may, with propriety, cease to be called "adventurers," and the working of the mine itself "an adventure."

The directors regret to state, that during the latter part of the administration by them of the affairs of the company, they were deprived of the valuable services of Samuel Thorrowgood, Esq., in the direction—he having tendered his resignation, in consequence of an infirm state of health.

To the report was appended a financial statement of the affairs of the company, of which the following is an abstract:—

Balance-Sheet—December 7, 1847.

Deposits	£3364	0	0
First call (May 18)	1714	10	0
Second ditto—first instalment (Oct. 21)	1383	10	0
Ditto —second ditto (Dec. 22)	98	0	0
Advances made by directors	845	10	4
Total	£7405	10	4
Purchase of Capt. Pilkington's interest in Wheal Curtis and Abraham Mines	£ 388	8	9
Plant, engine, &c., as per schedule	3676	10	3
Furniture of office	15	0	0
Sundry accounts due to the company	126	9	10
Cash in hand	14	15	9
Available property	£4221	4	7
Outlay upon the mine	3184	5	9
Total	£7405	10	4

Assets and Liabilities.

Acceptances coming due	£1583	11	11	Sundry debtors	£ 126	9 10
Debts, including cost for Nov.	890	16	1	First call	119	10 0
Due to directors	285	4	10	Second ditto—first instalment	1114	0 0
Balance	999	17	0	Ditto —second ditto	2399	10 0
Total	£3759	9	10	Total	£3759	9 10

The following extract from a letter received from Capt. Richards, dated the 21st December, accompanied the report, with other letters from the purser, two of the latest date of which will be found under Mining Correspondence:—"I have this day been at Wheal Curtis, and am happy to find that the 30 fathom level, west of shaft, continues to look very well, and there is every probability of this being a good discovery. The ground in Fegan's engine-shaft is rather hard at present, but we are of opinion that it will not be of long continuance. * * * Things are progressing very satisfactorily as regards our prospects, and in a little time we hope to prove to the world that Wheal Curtis is a fair and desirable investment."

Mr. TAYLOR was desirous of being informed whether, in the correspondence which had been read, as accompanying the report, one or two lodes had been discovered—inasmuch that, in the absence of any local information, the letters from their agent appeared to be somewhat vague.—The SECRETARY explained, by stating that there were *two* distinct lodes which had been discovered, to which reference was made in the correspondence.

The CHAIRMAN begged to direct the attention of the proprietors present to the specimens of ore then upon the table, and expressed his perfect readiness to render any information which might be desired beyond that conveyed in the report.

Mr. THORROWGOOD, who had retired from the direction, on account of his inability to attend to the active duties devolving on him, rose for the purpose of moving the adoption of the report; in so doing, he expressed his confidence not only in the merits and value to be attached to the undertaking, but that which he reposed in the able management of the affairs of the company, under the present board of directors and their agents on the mine. It was highly gratifying to him to find, that the expectations held out on the formation of the company had been more than fulfilled, as the present state of the mine, with the prospects which it presented, evidenced. The appointment of their present agent, Capt. Thomas Richards, of Marazion, was a change of management which became not only essentially necessary as regarded the active prosecution and working of the mine, but the carelessness and want of ability, as well as wasteful expenditure on the part of their late agent, rendered such change indispensable. The hon proprietor proceeded at some length to express his entire confidence in the concern.—The motion having been seconded by Mr. GEORGE, was carried unanimously.

In answer to an inquiry as to the defalcations on calls made, it appeared that 358*l.* was due upon the original shares; that on the last call 1114*l.*, was due on the first instalment of 10s. per share, which, had it been paid in full, would have amounted to 2497*l.*; and that on the second instalment, which fell due on the 20th ult., 2399*l.* 10s., remained unpaid at the time of making up the accounts, which was on the 7th ult.—making together the total arrears, 3513*l.* 10s., which, if paid up, would leave an available balance of about 1000*l.*

The CHAIRMAN thought it right to state, that he, in company with his colleague (Mr. Evans) had visited the mine; and they had, on the occasion, availed themselves of the assistance and advice of several practical mining agents, whose reports were of the most satisfactory nature. The surface work—such as the engine-house, smithy, carpenter's shop, and the several appliances requisite for working the mine on an extensive scale—appeared to them to be well laid out, and efficient for the purposes intended. He begged to submit to the meeting the appointment of directors in the room of those who vacated office, or the re-election of those gentlemen. There would, however, be one vacancy arising from the retirement of Mr. Thorrowgood, to whom the company were much indebted; and he would suggest the appointment of Mr. Bull, their solicitor, to fill such vacant office. That gentleman had ever fulfilled, not only the duties of his office as solicitor, but also had lent his valuable aid in furthering the objects of the company on all occasions—while the large interest held by him was such as to ensure his attention to the interests of the shareholders.

On the motion of Mr. TAYLOR, seconded by Mr. SMITH, the directors were re-elected.

Mr. HALLETT, in proposing Mr. Bull, as a director, introduced the motion with some observations highly complimentary to that gentleman; and the motion having been seconded, was passed unanimously.

Mr. BULL returned thanks, and expressed the interest he had ever felt in advancing the objects of the company. This additional mark of confidence would make him feel it incumbent on him to render them every service in his power—while he should hold himself at their command at all times. In acting as a director, he should studiously avoid allowing his position in such capacity to interfere with his office as legal adviser.

Mr. SMITH, as the holder of 140 shares, begged to observe, that he was one in the list of defaulters, on the second instalment of the last call made; but he was, at that moment, ready to give a cheque for the amount (which he subsequently did). He had been given to understand, and indeed it had been stated on the present occasion, that the apportionment of the additional, or surplus, shares, as previously determined upon, had not been legally made—inasmuch, that a supplemental deed was required under the original Deed of Settlement constituting the company, as also by the Joint-Stock Companies Act. If, however, he understood the matter rightly, such supplemental deed had been prepared, and was now on the table for execution. He doubted not but that the heavy arrears of calls, as appeared from the statement submitted to the meeting, would be at once liquidated, now that the legal instrument was ready; and, moreover, the short time which had elapsed since the second instalment became due, was in itself a reply in a great measure. The report then submitted to the proprietors, and the advices received from the mine, he considered highly satisfactory, and which alone would, when promulgated, he doubted not, ensure the payment of the arrears. He considered much good would be achieved by the press, and recommended strongly that the proceedings should be advertised, as at once displaying openness, and securing confidence.

Mr. E. M. GEORGE moved, and Mr. T. L. SMITH seconded, the resolution, that George Frederick Smith, and William Gibbs, Esqs., be re-elected the auditors of the company.

Mr. BULL proceeded to read the supplemental deed, which was in the end approved, and signed by the adventurers present.

A resolution was passed, expressive of the confidence of the meeting, and their determination to uphold the directors, by the payment of their respective calls.—A vote of thanks to the chairman and directors having been passed, the meeting adjourned.

TRELEIGH CONSOLIDATED MINING COMPANY.

The usual quarterly meeting of adventurers in this mine was held at the offices, Old Broad-street, on Monday last, the 3d inst.

J. ASHLEY, Esq., in the chair.

Mr. NICHOLSON (the secretary) read the notice convening the meeting, and the following report from Captain W. Richards:—

It may be expected that I should send my report, to lay before you at the meeting on Monday next, but the weekly reports, and the copy of the setting by Captain Simmons, leave little for me to say. I am happy to inform you, that Garden's shaft, and the 100 fathom levels, east and west, are very much improved within the last week or two; also the 80 and 90 fathom levels, west of Garden's; and I hope that each of them will be productive ere long. The ground in Garden's shaft, you will observe, is improved—price reduced from 36*l.* to 30*l.* per fathom; and we have killas on the north wall, and so we have in the 100 east, since which the lode has improved. Christoe's department continues poor, but I hope in two months to see the lode in the 120 fathom level. The 110 east, on the south branch, continues kindly; I intend to drive the 100 fathom level, to cut it, and, from present prospects, I expect we shall not fall short of 700*l.* worth of ore per month: we could do more, but from the present low standard, I do not think it would be prudent. At Wheal Parent, our operations on this lode are confined to driving the adit cross-cut towards the engine-shaft; this, I expect, will be done this month, when we shall resume the shaft, if the water will allow us, of which there has been a great increase within the last month. The prospects in this lode are very encouraging.

From the statement of accounts, it appeared that the balance from last account was 3832*l.* 19s. 10d.; copper ore sold, 2531*l.* 10s. 8d.; call and interest, 26*l.* 5s.=6390*l.* 15s. 6d.—By three months' cost to end of Dec., 1434*l.* 7s. 9d.; merchants' bills, 822*l.* 14s. 2d.; lord's dues, 273*l.* 14s. 9d.; dividend, 1522*l.* 10s.; reserve fund, 150*l.*; for rent, printing, stationery, London management, &c., 92*l.* 18s. 5d.—leaving balance at bankers', or bills and cash, 2094*l.* 10s. 5d. The assets were 2829*l.* 13s. 11d.; and liabilities, 989*l.* 6s. 10d.

The CHAIRMAN then rose, and observed, that it had been the anxious wish of the directors to have declared the usual dividend at that meeting; but, after full consideration of the subject, they did not think it prudent, with their present low state of the funds, to pay a dividend until the next meeting.

Mr. BIRDSEY said, he should move that a dividend of 5s. per share should be declared, payable that day month.

Mr. ABRAHAM LINDO said, that after having perused the accounts, he could see no reason why a 5s. dividend, which amounted to 1250*l.*, should not be paid. It was true, he found claims to the amount of 736*l.*, but then, in addition to the balance, there were ores sold in December to the amount of 784*l.* A portion of the last dividend (91*l.*) had not been claimed, and there was the reserve fund of 400*l.*, which would be amply sufficient. He thought the directors ought to make an exertion to keep up the payment of the dividend, for the sake of supporting the character of the undertaking in the eyes of the public. He seconded the motion.

The CHAIRMAN explained, that the reserve fund was invested in the funds, and could not be touched; that there was not sufficient money in hand, without tying the directors' hands, and completely crippling the undertaking; and had it not been for the great reduction in the standard, which lessened their receipts upwards of 200*l.* per month, they could have paid the usual dividend; and Mr. NICHOLSON showed, by figures, that, deducting the claims due in January and the beginning of February, which must be prepared for, there was a balance of only about 1100*l.*

A good deal of conversation ensued on this subject, when the motion was not pressed, but the declaration of a dividend was left to the discretion of the directors; the CHAIRMAN stating, that if they had the means, they would most cheerfully make the dividend larger than usual at the next meeting. They could very much increase the raising of ore, but they did not think it prudent, under the present low standard.

The accounts were then passed; and a vote of confidence in the directors having been unanimously carried, the meeting separated.

WHEAL TREVENNA.—A special meeting of shareholders was held at the Fountain Inn, Liskeard, on the 29th December, at which it was resolved—"That the mine should be further prosecuted to the extent recommended by Capts. Taylor and Bennetts;" for which purpose a call of 1*l.* per share was made, payable immediately.—It was also resolved, "that any shareholder, who may be desirous of relinquishing his shares, shall not be liable for the payment of this call now made, provided he gives notice of such relinquishment to the purser on or before the 13th inst., and provided, also, that all arrears of calls due on the said shares are first paid up."—The purser was then directed to furnish Mr. Peter (the solicitor) with a list of the adventurers who have not paid the Jan. and July calls, for the purpose of enforcing payment thereof.

Stannaries of Cornwall—In the Vice-Warden's Court.

PURSUANT to a DECREE of the VICE-WARDEN'S COURT, made in the cause of HODGE *v.* KIRKMAN, the CREDITORS, in respect of ALVIGGAN MINE, in the parishes of St. Stephens, in Branwell, and St. Mewan, within the said Stannaries, are, on or before the 20th day of January inst., to come in and PROVE their DEBTS before the Registrar of the said Court, at his office, in Truro; or, in default thereof, they will be peremptorily excluded the benefit of the said Decree.

Dated Registrar's Office, Truro, Jan. 6, 1848.

THE MINING COMPANY OF IRELAND.

The condition of the Mining Company of Ireland, as exposed at the stated half-yearly meeting, held at the offices, Dublin, on Thursday last, may be taken as another illustration of the prostration of every interest in this unfortunate country. Two years ago, this company was paying its proprietary the extraordinary dividend of 15 per cent. To-day the shareholders were told by the directors, that there were no means of paying any dividend at all, the profits on the half year being under 400*l.*

After the reading of the directors' report (which we shall give in our next), a long discussion ensued, in which a good deal of information—not strictly applicable to the report—was elicited from the directors.

One of the principal causes advanced for the depressed state of the company was the general distress of the country. Since the potatoe disease had appeared the previous demand for culm, for the purpose of burning lime for manure, had completely fallen away, and left a quantity of that produce on hand. Latterly, however—with the improved appearance of the country—the demand for culm had again arisen, and was steadily increasing. The demand for all kinds of ore, and the prices, had also fallen off; while the reduction in the expense of working was hardly commensurate. In addition to these causes, there were others, which had been operating most prejudicially for some time; but which the directors hoped to have removed by an Act of Parliament early next session; and that was the fact of Capt. Bernal Osborne—or rather the trustees of his marriage settlement—requiring a royalty of one-tenth of the produce of Knockmahon Mine, while all the other proprietors of mines in Ireland were satisfied with a twentieth. The trustees said they had not the power to accept less in the present state of the law, and it was understood the Government intended bringing in a bill on the subject.

Mr. PERRY, the chairman, said that, as the capital and stock of the company were nearly as valuable as at the period of their highest prosperity, he felt confident that, with the improvement in the state of the country, which might be fairly expected, the profit would be again highly remunerative.

WHEAL BARBARA MINING COMPANY.

A special general meeting of the adventurers in the above mine was held at the offices, 41, Moorgate-street, on Friday, 7th inst., pursuant to circular.

D. DUTHOIT, Esq., in the chair.

Mr. N. TRUSCOTT (the purser) read the minutes of the meeting of the committee, held on the 24th December; as also the correspondence with the proprietors—being the result of a meeting held at Manchester, when four-fifths of the shares were represented.

Mr. MOLYNEUX rose for the purpose of moving a resolution, having for its object the removal of the management of the affairs of the company, in accordance with the desire expressed in the resolution passed at the meeting referred to, and which had been readily assented to on the part of the finance committee. He considered the course suggested was one which would meet with their cordial approbation, inasmuch that the gentlemen whose names would be proposed as members of the finance committee, in the room of those who had retired, were of the highest respectability, and were largely interested in the adventure.—The resolution, with others, being thereon put, which will be found in our advertising columns, were carried unanimously.

The finance committee, whose names will be found in the resolutions carried at the meeting, was then appointed. In consequence of the removal of the management of the affairs of the company to Manchester, Mr. Nicholas Truscott, as purser, begged to tender his resignation, which was accepted—a vote of thanks being passed to that gentleman; and Mr. Shearman was appointed to that office.—The objects of the meeting being merely the change of management, but little business of importance took place. The accounts from the mine were of a highly satisfactory nature; and there was a pleasing unanimity of feeling displayed, and confidence expressed, as to the results.

CARADON WHEAL HOOPER.—At a general meeting of shareholders, held at the King's Arms Inn, Launceston, on Friday, the 31st December, the accounts were presented, showing—By calls received from 2d Nov. to 31st December, 404*l.* 8*s.* 4d.—Balance at last meeting, 41*l.* 16*s.* 6d.; October costs, 192*l.* 2*s.* 8d.; November, 140*l.* 4*s.* 8d.—leaving balance of 30*l.* 4*s.* 8d. The outstanding bills amount to 300*l.*; and the calls in arrear to 277*l.* 11*s.* 8d.—It was resolved, that a call of 2*l.* per share be made; also, that if those shareholders who are four calls in arrear, do not pay up within one month, their shares will be forfeited. The following report, from Capt. J. Seymour, was read to the meeting:—"In meeting you on the present occasion, I presume to think that you are not expecting a lengthened report, as I have given you all the particulars in my last to the *Mining Journal* of the 18th Dec. Let me further inform you, that since that was written we have cut down a large piece of ground, which we left stand in the shaft that we might the sooner pursue our driving towards the lodes; this being completed, the penthouse is put in, and the shaft sunk 4½ ft.; the men will now have to cut ground for bearers and cistern for the lift in it, preparatory to our sinking to the 60. The ground in the shaft, I am happy to say, is much more favourable than I expected to find it; if it continue as at present, we shall be able to sink from the 50 to the 60, in much less time than we sunk from the 40 to the 50. The cross-cut north, in the 50, is driven towards the lode from shaft 17 fms.; we have about 10 fms. more to cut the saw-pit lode; this may be completed in about three months. The men have driven 3 fms. west on the caunter lode since last setting day—the granite is about 4½ ft. up from the bottom of the end; the lode is strong, compact, and regular, 2 ft. wide; it appears that we are only skimming over a course of ore in driving this end—I therefore would propose to stop it, and drive a cross-cut south to the last lode we cut east, which will not be more than 5 fms. The cost will be 3*l.* per fm.; this is about 32 fms. west of where it is now cut, and I think a good speculation, as we have a good lode east. We have driven 7 feet south from the lode cut 5 fathoms south of the caunter; from the appearance of the ground, and the quantity of water proceeding from it, I believe there is another lode not far ahead. I took the men from this end for a day or two to break some of the lode east, which is much improved; only in 2 ft. driving it is now worth from 12*l.* to 14*l.* per fm.; the end can be driven for 5*l.* 10*s.* per fm.; the back stoped for 2*l.* 10*s.* per fm.; this is going east to the killas. Without entering further into particulars, allow me to say that the mine is passed a speculation, there being copper enough in the lodes in the 50, to ensure her paying handsome dividends at a greater depth."

PERRAN WHEAL VIRGIN.—At a meeting of adventurers, held at the Royal Hotel, Truro, on the 29th ult., the accounts for Sept., Oct., and Nov., of which the following is an abstract, were passed, and the balance ordered to be divided and collected forthwith, together with a call of 2*l.* per share for the further working of the mine. Relinquishments of 13 shares were sent in; but the purser was instructed to give notice to the parties, that they would be held responsible for the expenses consequent on working of the engine, in accordance with the contract entered into with the Callestock adventurers.—To balance at the end of Aug., 326*l.* 16*s.* 8d.; cost and merchants' bills, 446*l.* 16*s.* 10d.=773*l.* 13*s.* 6d.—By call of 3*l.* per share, 384*l.*; ores sold (less dues), 368*l.* 10*s.* 4d.=752*l.* 10*s.* 4d.: balance against the mine, 21*l.* 3*s.* 2d.

WHEAL FORTESCUE.—A meeting of adventurers was held at the mining office, Tavistock, on Thursday, 30th Dec.—JOHN PHILLIPS, Esq., in the chair—when the accounts for the three months, ending November, were submitted and passed, showing a balance in favour of the mine, supposing all calls to be paid, amounting to 210*l.* 14*s.* 11d. Resolutions were then passed for adopting the recommendation of the captains, by immediately commencing sinking the engine-shaft; and a call of 1*l.* per share made, payable on the 13th January. —The following report from Capts. S. Seccombe and J. Key was read to the meeting:—"The 20 fm. cross-cut has been driven north from the engine-shaft 13 fms., at which point the Wheal Maria lode has been intersected, and found to be a very promising lode, upwards of 8 ft. wide, composed of quartz, prian, and mundic, intermixed with rich stones of copper ore. In driving the cross-cut, previous to intersecting the lode, several branches, or droppers, were met with, producing ore; and, from the congenial stratum of killas, we have every reason to believe that a very valuable lode will be met with at a greater depth, and we recommend that the sinking the shaft should be proceeded with immediately, and that, in the meantime, the driving the 20 fm. level, be discontinued. We estimate that the sinking the shaft 15 fms. below the present level, driving a cross-cut to cut the lode in the 35 fm. level, including pitwork, &c., will be about 600*l.*, and that nine months will be required to accomplish this work."

WHEAL JANE.—A meeting of adventurers was held at the mining offices, George-yard, Lombard-street, on Monday, the 3d instant,—Mr. T. FIELD in the chair,—when an interesting report, from Capt. White, the agent on the mine, was read, fully explaining the different workings, and future prospects of the undertaking, which appeared highly flattering, and gave general satisfaction.—The accounts, for the months of Aug. and Sept., were then submitted, by which it appeared, there was a balance from last account to the debit of the mine of 70*l.* 7*s.* 11d.; mine cost for Aug. and Sept., 563*l.* 1*s.* 9d.; merchants' bills and materials, 328*l.* 2*s.* 11d.; dues, 6*l.* 10*s.* 11d.=968*l.* 3*s.* 6d.; from which deduct amount of ores, &c., sold, 117*l.* 17*s.* 2d.—leaving a balance against the mine of 850*l.* 6*s.* 4d.; less a call 3*l.* per share, 21st Oct. last (768*l.*), leaves a net balance against the mine of 82*l.* 6*s.* 4d., to which is to be added, labour cost for Oct., since received, 223*l.* 13*s.* 4d.—Resolutions were then passed, appointing Mr. Field purser of the mine, at a salary of 6*l.* 6*s.* per month, and making a call of 2*l.* per share, payable on or before the 10th inst.

New copper-works, at Penclawdd, upon an extensive scale, are to be erected forthwith. Preliminary operations have been already commenced.—*Cambrian.*

CARWINNING HILL MINING COMPANY.

SIR,—Having been strongly tempted to take shares in this concern, I was rather surprised to find, from the report of Mr. A. Bennett (who appears to be the originator of the concern), in your paper of Saturday last, that, instead of anything tangible, to warrant the enormous premium these shares have been worked to, he speculates entirely upon presumption. For instance, he says—"The greater proportion of Carwinning Hill is composed of clay-slate, similar to the clay-slate in Anglesea, in which the celebrated Parys and Mona Mines were discovered about the year 1780, which have yielded, since that period, several millions sterling value of copper ores, and several families have realised princely fortunes from the same." And so, because in Wales, certain parties made fortunes from a certain geological formation—clay-slate—Mr. Bennett logically jumps to the conclusion, that the same kind of formation in Scotland, must realise the same fortunes for those who purchase these shares! Such logic may suit the "riggers" of the Stock Exchange, but is rather too much for the generality of your readers. How many have speculated upon having the *appearances* in other mines of the Great Maria, and have lost their money! East Rose has made fortunes for many. I need not ask you how many have *lost* hundreds in workings, not only in the "same formation," but in the *same lodes*. Were I inclined to treat Mr. Bennett with some of his own logic, I could deduce some interesting facts from Trenow Consols. The world, at least, gives him credit for making a good thing of her: those who purchased at 250*l.* per share, cannot congratulate themselves so much.

Again, Mr. Bennett says—"The clay-slate formation is of the same character as the clay-slate in the great copper mining districts in Cornwall; and, therefore, it is fair to presume, that Carwinning Hill will prove to be one of the greatest mines ever discovered in Europe, both as to the quantity and quality of its ores!" Oh! Absalom, my son!

The greatest copper mining district in Cornwall is Gwennap. Where is the mine, then, that yields abundance of copper in clay-slate? How many mines in the east (barring Wheal Friendship) yield ore in killas? The communication made by Mr. Bennett in the first instance was truly laconic and businesslike. "There is a hill, in the parish of Dalry, presenting the strongest features of a copper mine; I never saw a more kindly lode in Cornwall, *and I think it is worth your trouble to visit this country.*" No one can doubt the truth of the words in italics. I remember, a few years ago, the discovery of some very rich stones of copper ore in a hill in Scotland; these were also found by a Cornishman, who wrote home to a friend in Cornwall, to tell him of the prize. This latter personage visited the country, and much also to his benefit; he brought the rich stones of ore to England, had them assayed, formed a company to work the mines, sold out his shares at a high premium (I was one of the fools who purchased); and the mine, upon being tried, proved a complete failure, and your humble servant minus some 300*l.*"

In mentioning this, Mr. Editor, I do not wish to draw odious comparisons. Previous to Saturday last, I was inclined to look favourably on Carwinning Hill, having been told that some hundreds of tons of ore had been discovered; but the statement in an article, purporting to be a review of mining during the year, coupled with Mr. Bennett's letter, have led me to write you, in the hope that you can furnish me, and your numerous readers, who look to you as their guide, with the *real and bonâ fide cause* of these shares reaching 6*l.* prem. (12,000*l.* for the concern), before, if I may judge from the report, any active operations have commenced to prove the value of the mine. J. S. S.

Coleman-street, Jan. 7.

TIN VALE MINING COMPANY.

The following reports have been received by the directors of this company:—

"During my November journey, through Devon and Cornwall, I availed myself of the opportunity of inspecting your sett at Harrowbridge; and, though my survey was merely a cursory one, yet it may be deemed sufficient for the object I had in view—viz.: to give you my opinion of its relative value. In the vale, or moors, on either side of the river, I find there is a considerable deposit of stream tin, which has evidently been worked on, many years ago, by the old tinners; and there are two stream works now in active operation, from which I took some very fine samples of grain tin, worth at least 50*l.* per ton. The strata in which this is found is a decomposed loose granite, seven feet in thickness from the shelf, or base, carrying an overburden of six feet, composed of black loam and peat. There have been taken up from the works nearest the mine some fine prills of solid tin—one of them a pound in weight—which is an evident indication of its proximity to some good lode; and as this stream work is on the rising ground of the moors, there is every reason to conclude that the tin must have come from the hill adjoining, or it otherwise would not have been found in that locality. Premising, therefore, it did come from the hill, we are then led to suppose it must have been carried down from the back of the lode marked No. 4 on the plan, which is found running west-north-west across the sett. On this lode, a shaft has been sunk 10 fathoms, and from which has been taken some very good stones of tin, which, from the small quantity I bruised down, would make 3 cwts. of black tin to the 100 sacks of work, which is considered very profitable working. There are two other lodes, running westerly, that will form a junction, at an acute angle, with lode No. 4. At this point, I think, all three will take one regular bearing, and form one large lode; which, if they do, will render the mine a very valuable one indeed. The lode No. 1 appears to have been worked by the old miners to some extent, which is seen by the burrows, now remaining at surface; and wherever this occurs, I generally form a favourable opinion of it, inasmuch that, had they not found metal near the surface, they would not have long continued to work on it; for in those days there was ample room to seek elsewhere, and which they would have done in this instance, if the tin was not of easy access. I had no means of estimating the depth of these old workings; but if it should be found that they went deep, not a doubt can exist that the lode is a good one. The new adit, marked B, is being driven towards lode 1, and is on the course of a strong leader, or branch; it presents two of the most beautiful walls I ever saw in my life; it carries some tin with it, and its produce may be said to be saving work. The value for driving is about 30*s.* per fathom; and as no timbering is required, a good deal may be done at a little cost. I should advise every stone from the level to be saved, and when the 15 heads of stamps are erected, which are now in progress, to have it stamped down, and dressed immediately: you will find it a very fine sample, and obtain a good price, which should be turned into money, to pay the cost for prosecuting other parts of the mine. The small quantity I have had dressed is with me in London, which I shall feel happy to show any interested parties that may wish to analyse its qualities. Altogether, I consider Tin Vale a good mineral property; and, should the operations be conducted with prudence, economy, and dispatch, I have not the least hesitation in saying, that, in a short time, an excellent mine will be the reward of the adventurers. At another time, should it meet your wishes, I will take a more careful survey of the sett, illustrate in detail, by diagrams, the several old and new workings, and lay down a comprehensive plan for future operations.—C. S. RICHARDSON, Surveyor and Civil Engineer; *Whitefriars-street.*"

CAPTAIN JOHN FLOYD'S REPORTS.

"I have to inform you, that adit B level is driven on the lode about 60 fathoms. The lode in the present end is 3 feet wide, having two as well divided walls as I have ever seen. The lode is composed of an abundance of mica, felspar, flookan, and good tin. The said indications are the sure forerunners of large quantities of tin; and it is my opinion, that in driving about 20 fathoms further, we shall intersect a cross-course, at which place it may be expected to raise large quantities of tin—that is, from the kindly appearance of the lode at present. I hope and trust to have your orders, ere long, to commence clearing adit A level; and then we shall commence raising a deal of good tin immediately, to pay cost—that is, from the north and middle lode, already discovered in adit A. I also verily believe, when we cut the great tin lode in adit A, which is about 15 fathoms south of the present adit end, we shall then be paying large dividends to the shareholders. I would also advise your sinking the shaft that is already sunk about 10 fathoms, where the lode is six feet wide, and producing a great deal of tin. Remember the lode in the shaft six feet wide is precisely the same lode alluded to in driving adit A 15 fathoms further south. In a word, I do not hesitate to say, but that the proprietors (I will not call them adventurers) will shortly be handsomely paid for their little outlay. I have also to inform you, that we are getting on as well and as fast with our buildings and machinery as the weather will permit: in a word, all operations here are going on with propriety.—JOHN FLOYD: *December 27.*"

"I have to inform you, that the wheel is up, and we shall be in readiness for working this week. The lode in B adit end is looking very kindly indeed. I have also had the barrow road in adit A put in order, and only wait your order to commence raising tin. The grass, or surface, work is getting on well."—JOHN FLOYD: *January 4.*

Capt. Floyd writes:—"I have also to inform you, that there have been three men to me, who will take a pit on tribute, on the north lode, in adit A, now that the deeds and all things are settled—which looks well on the proprietor's side: does it not? Yes—it is the tributers who put the grain in the proprietors' pockets, when the latter have opened the mine. Therefore, I hope to have your orders ere long to commence that rich part of the mine in Tom Parkyn's land; and we shall soon have to erect plenty more stamps, to stamp the tinstuff which will be raised in that mineral piece of ground."—*Jan.* 5.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

BIRCH TOR.—This mine is greatly improved, she has paid out of her profits upwards of 800*l.* towards the old debt; certainly some parties were greatly to blame to allow this company to get more than 4000*l.* in debt. It is reported that those in the secret sold out previous to its being made public; but, as this will be the subject of a legal inquiry, we shall refrain from more reports at present.

CRAIG DHU SLATE COMPANY.—The works progress steadily and satisfactorily. The company have about 400 tons of slabs (many of them of unusual size) cleared, of which 50 tons are planed, and ready for shipment.

TAVY CONSOLS is looking excellent—indeed, they have raised 30 tons of ore in less than 2 fms. of ground; in sinking the shaft they are now to the 36 fm. level, and have commenced driving east and west, and will sample above 100 tons for the current month—this looks well, and, to all appearance, Tavy Consols will be the "great gun" of the day, in spite of all opposition to keep her down by men of high standing.

WHEAL ANDERTON.—On visiting this mine last week, we found the engine up, and in full work; we also saw some splendid stones of tin. From what we could hear from Capt. Carpenter, these shares must greatly improve before long.

WHEAL BARBARA.—There are six men put to drive the cross-cut north at 5*l.* per fathom, occasional branches are met with affording favourable indications—indeed, we are looking as well as could be desired; the east end is driving by two men, and six men are also employed in sinking the quarry shaft, which is going down below the adit on the underlay of the lode. It will be impracticable to prosecute the workings to much extent until the engine is in course of working—in the meantime we are getting up the engine-house and all matters in readiness.

Mine Accident.—On Tuesday, the 4th inst., a young man, while descending the ladder of the engine-shaft, in Wheal Owles Mine, missed his footing, and fell. One of his comrades fortunately caught hold of him in his descent, and, in all probability, saved his life. As it is, his arm was broken, and put out of the cup.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.

Bank Stock, 9 per Cent., 189½	9	Belgian Bonds, 4½ per Cent.,	88
3 per Cent. Reduced Ann., 86¼	¼	Dutch, 2½ per Cent., 54¼	4
3 per Cent. Consols Ann., 86¼	6	Brazilian, 5 per Cents., 80½	
3 per Cent. Annuities, —		Chilian, 6 per Cents., 88½	
3½ per Cent. Ann., 87½	½	Mexican, 5 per Cents., 17½	½
Long Annuities, 8¾		Spanish, 5 per Cents., 20 19½	
India Stock, 10½ per Cent., 229	32	Ditto 3 per Cents., 29½	½
3 per Cent. Consols for Opg. 86¼	¼ ¼	Portuguese, 4 per Cents., 25½	
Exchequer Bills, 1000*l.* 3d., 20	17 pm.	Russian, 5 per Cents., 108¼	

MINES.—Notwithstanding the limited extent of business transacted during the week, we fully calculate on an early, and, we hope, a permanent improvement in the mining share market. Many private negotiations appears to be onward, which, we believe, will come off before our next. The shares principally in demand are those paying dividends.

We learn from the county, that the mines generally are looking in a very healthy and improved position, and the only preventation to several becoming dividend mines, is the present depressed state of the standard.

South Wheal Francis two-monthly meeting, held on the 3d, declared a dividend of 8*l.* per 124th share, and also paid 1000*l.* on account of new engine, pitwork, &c. The prospects of the mine are represented as being better than they were ever seen before.

We omitted last week to notice the dividends declared during the week by East Wheal Rose, of 50*l.* per 128th share; North Pool, of 12*l.* 10*s.* per 100th share; Balleswidden, of 4*s.* per 1624th share.

Treleigh Consols meeting was held on Monday last, when it was considered advisable to postpone the dividend which was intended to have been declared, and will thereby be prepared to meet all present and coming liabilities, without raising more than a sufficient quantity of ore to meet current expenditure, before an improved standard can be obtained. The mine is looking better than she has for many years before.

Cobre half-yearly meeting was held on Monday, the 3rd inst., when a dividend of 1*l.* per 10,000th share was declared. The directors' report furnishes a very satisfactory prospect of the state of the mine.

South Wheal Basset is reported to have much improved within the past fortnight.

At Lamberoose Wheal Maria, a considerable improvement has been made at the 30 fm. level. The persevering spirit which this company has evinced against the numerous obstacles which have constantly appeared to dishearten, will, we trust, ultimately possess—what they deservedly merit—a good and profitable mine.

We understand that a London Company has purchased the sett called East Wheal Friendship, adjoining Wheal Friendship; and, from the reports of eminent mining agents, who have inspected the property, the locality of the mine, and the persevering character of the parties referred to, we have no donbt but the mine will be worked with spirit and ability.

A meeting of the Deep River Company was held on Thursday, when the first deposit on the 1200 shares of 12*l.* 10*s.* each was paid. The reports received from the agents appointed to inspect the property, having confirmed the representations made to the gentlemen interested, it was resolved at once to establish the company, and immediately commence the most active operations.

It is the general opinion of those conversant with the tin market, that an advance in price will shortly take place. We are gratified to learn even this much, as several tin mines have lately made some considerable improvements.

It is with deep regret, that we learn of a defalcation, to a very large amount, by a purser of one of the greatest dividend-paying mines in Cornwall. We are the more surprised at the circumstance, from the fact, that the bi-monthly meetings are generally attended by the most eminent merchants in the county, who invariably pass a resolution to the effect of the accounts having been examined and audited by them. The respectable position which the party referred to holds in society appears to be no guarantee for the confidence reposed, and requires, on the part of adventurers, that security for the perfect performance of their important and responsible duties, more substantial than that of imaginary honour and integrity.

In the foreign share market very little has been done—a few Imperial Brazilians have been sold at an advance on last week's quotation. By the Indian mail, received here on Monday, we learn that the metal markets of Bombay and Calcutta were good, an advance had taken place, especially in copper and iron.

The following arrivals of specie, since our last, have been announced:—*ex* Royal Mail Steam Packet Company's ship, *Severn*, at Southampton, with $693,418, 1400 ozs. of gold, and British silver of the value of 8590*l.* from the West Indies; H. M. sloop, *Modeste*, with $8000 on merchants' account; *ex Prince Albert*, from New York, two kegs and one box of specie, consigned to three London firms, and two boxes addressed to the British Bank of North America; *ex Oriental Queen*, from the Mauritius, one case consigned to a London house; *ex* steam-ship *Princess Royal*, from Hamburgh, one cask of bullion, and one cask of gold. The steam-ship *Soho* has also brought, from Antwerp, three casks of silver dust.

HULL, THURSDAY.—The market is without any alteration worth recording. At present there is no such thing as speculative buying in the share trade; the purchases that are made are for investment; and few *bonâ fide* holders of stock are selling, except where calls have to be met, and have not been provided for. The practice latterly adopted by some companies, of stating the amount of calls that will be made during the year, defining the dates, appears judicious, as it gives time for preparation.

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Price per share	Last Div.	*Traffic Returns.* 1847	1846
Arbroath and Forfar	15	£179,939	96	4 p.c.	£190	137
Chester and Birkenhead	15	706,793	38	—	715	680
Dublin and Drogheda	35	733,655	63½	3½	—	—
Dublin and Kingstown	7½	473,282	—	7	962	904
Dundee, Perth, and Aberdeen	36½	285,745	30	6	709	641
East Lancashire	24	1,207,490	21¼ ¾	—	1013	830
Eastern Counties	202½	7,698,370	15⅝	5	11389	9012
Eastern Union	43½	979,926	45	-	1202	1110
Edinburgh and Glasgow	50	2,375,745	44	6	3626	3260
Edinburgh and Northern	29	953,207	16½	—	646	521
Glasgow, Paisley, and Ayr	60½	1,890,847	120⅝	7	2357	2005
Glasgow, Paisley, & Greenock	23	838,964	18½	3	1166	992
Gt. Southern & Western, Ireland	110½	1,876,326	22	—	1571	1990
Great Western	240½	10,630,763	95	8	—	21367
Kendal and Windermere	10¼	147,001	23	—	99	100
Lancaster and Carlisle	70	1,291,913	53	—	1116	1129
Lancashire and Yorkshire	92½	6,80/,314	73½	7	8650	8698
London and North Western	428	20,010,467	149	9	35082	34177
London and Blackwall	4	1,146,289	5 4½	¾	593	722
London, Brighton, & South Coast	147	5,659,180	42⅝	4	6708	8057
London and South-Western	186	5,836,132	53	9	6966	8604
Londonderry and Enniskillen	14½	160,013	24½	—	101	108
Manchester, Sheffield, & Lincolnsh.	49½	2,078,135	80	6	2100	1998
Maryport and Carlisle	28	424,417	—	3	482	474
Midland Company	382	8,658,604	109½	7	20199	22976
Midland Great Western (Irish)	26½	583,776	—	—	—	754
Newcastle and Carlisle	65	1,184,080	117	6	1865	1698
Norfolk	70½	1,375,533	80	6	2011	2159
North British	78	2,514,150	25	5	2113	2090
Shrewsbury and Chester	17	591,158	21½	—	635	527
South Devon	29	1,339,860	24	—	—	767
South-Eastern	157½	6,398,218	31	6	8138	7754
Taff Vale	38	785,607	—	5½	1564	1646
Ulster	25	646,211	52	6	562	655
Whitehaven Junction	12	130,000	—	4½	190	185
York, Newcastle, & Berwick	236½	3,685,102	34	9	11367	12327
York and North Midland	196	3,196,869	73½	10	7127	7908
FOREIGN RAILWAYS.						
Amiens to Abbeville	28	573,338	—	4	995	—
Antwerp to Ghent (three weeks)	31	—	—	—	1100	—
Belgian	—	—	—	—	46247	43741
Dutch Rhenish	57½	—	2⅝	—	—	—
Northern of France	211	2,000,000	11⅛	4	12053	8071
Orleans to Bourges (Central)	70	—	—	—	9664	2436
Orleans to Tours	72	600,000	—	5	3230	—
Paris and Orleans	82	2,011,720	47½	12½	8218	6583
Paris and Rouen	85	2,082,916	34½	9½	6558	5798
Rouen and Havre	59½	—	17⅝	4	2433	—
Strasburgh and Basle (monthly)	88	—	8	1½	6932	8302
West Flanders (ditto)	—	—	1⅝	—	1047	—

Total earnings for last week, £178,912, being an increase of £30,926 over last year.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending Jan. 1, was 22,300; amount of money, £92 18*s.* 4d.

CURRENT PRICE OF GOLD AND SILVER.

Foreign gold, in bars ....per oz.	£3 17 9	New dollars.....per oz.	£0 4 9½
,, Portugal pieces....	0 0 0	Silver in bars (standard)	0 4 11½

LATEST CURRENT PRICES OF METALS.

LONDON, JANUARY 7, 1847.

	£ s.	£ s. d.
Iron—Bar a..Wales..ton	7 0	7 5 0
,, ..London ..	8 5	8 10 0
Nail rods ,, ...	0 0	9 5 0
Hoop(Staf.) ,, ...	10 10	10 15 0
Sheet ,, ,, ...	0 0	11 10 0
Bars ,, ,, ...	0 0	10 0 0
Welsh cold-blast foundry pig ..	4 0	4 10 0
Scotch pig b, Clyde	0 0	2 6 0
Rails, average	0 0	8 0 0
Chairs	0 0	4 17 6
Russian, CCND c..	0 0	—
,, PSI	0 0	—
,, Gourieff	0 0	—
,, Archangel	0 0	13 10 0
Swedish d, on the spot	0 0	11 5 0
,, Steel, fagt.	0 0	16 5 0
,, ,, kegse	0 0	14 0 0
Copper—Tile f	0 0	97 0 0
Tough cake	0 0	98 0 0
Best selected	0 0	101 0 0
Ordin. sheets, lb...	0 0	0 0 11
Copper—Ord. bottoms ..	0 0	0 0 12
Yellow Metal Sheathing	0 0	0 0 9½
Tin—Com. blocks g..cwt.	0 0	4 2 0
,, bars	0 0	4 3 0
Refined	0 0	4 6 0
Straits h	3 18	4 0 0
Banca	0 0	4 4 0
Tin-Plates—Ch., IC i, box	1 8	1 10 0
,, IX ...	1 14	1 16 0
Coke, IC	1 3	1 4 0
,, IX	1 9	1 10 0
Lead—Sheet k ......ton	0 0	19 0 0
Pig, refined	19 10	19 15 0
,, common	0 0	17 15 0
,, Spanish, in bd.	0 0	17 0 0
Red	0 0	19 5 0
Dry White.........	0 0	23 10 0
Shot (Patent)......	0 0	20 0 0
Spelter—(Cake) l on spot	0 0	20 0 0
,, for arrival	19 5	19 10 0
Zinc—(Sheet) m export.*	0 0	27 0 0
Quicksilver n ....lb.	0 0	0 4 6

a Discount 2½ per cent. b Net cash. c Discount 2½ per cent. d Ditto e In kegs ¼ and ⅛-inch. f Discount 3 per cent. g Ditto 2½ per cent. h Net cash in bond. i Discount 3 per cent. k Ditto 2½ per cent. l Net cash. m Discount 1½ per cent. n Discount 1¼ per cent. * For home use it is 32*l.* per ton.

THE IRON TRADE.

[The annual statistical statements of the metal trades will be found on the 9th page.]

GLASGOW.—By an examination into the state of the stock of pig-iron in the yards, and in the hands of the makers, we find that there is a decrease in the quantity since the end of 1846, of nearly 60,000 tons. Then it was estimated at 144,000, now at about 85,000 tons. The stock at the end of 1845 was 240,000 tons—thus indicating, that within the last two years, the consumption has exceeded the make by about 155,000 tons. The present low price at which this article is selling is likely to stimulate foreign demand, we consequently anticipate large shipments to the continent this spring. The scarcity of money prevents a rise in price, which, from the above circumstances, we might have looked for, and render the market dull. Yesterday there was a sale by auction of 2000 tons, mixed Nos., for cash, which realised 46s. 9d. per ton; this has given a tone of firmness to the market. To-day there is very little doing, and the price for cash against bill of lading may be quoted at 47s. to 48s. for mixed Nos.

BIRMINGHAM.—The worst anticipations, with reference to the iron trade of this district, have for the present been realised; but there is reason to believe, from the smallness of the stocks of manufactured iron which remain on hand, that in a few weeks the trade will resume a portion of its elasticity. On Tuesday, a meeting of the ironmasters, preliminary to their general quarter-day, was held at the Hotel, Dudley, when it was resolved (as anticipated last week) to reduce the price of manufactured iron to the extent of 2*l.* per ton below the declared prices at the last quarter-day. Sheets, which three months ago were quoted at 13*l.* 10s., were reduced to 11*l.* 10s.; bars were reduced from 10*l.* to 8*l.*; and hoops from 10*l.* 10s. to 8*l.* 8s.; but it does not follow as an absolute consequence that the precise quotations will be confirmed at the general meeting of the trade, although between 30 and 40 of the principal makers were present on this occasion. The total number of blast furnaces in the circle of Shropshire and Staffordshire is estimated at 164, and of these at the present time not less than 72 are absolutely blown out; but the stocks are universally low, and when the spring demand commences, there is reason to anticipate an improvement in the value of the staple commodity of the district. Some little resistance has been manifested by the puddlers in the neighbourhood of Tipton to the proposed reduction of wages, but the only result of such an injudicious step will be their individual injury.—*Birmingham Advertiser.*

EXPORTS OF METALS TO ALL INDIA FROM LONDON AND LIVERPOOL, FOR THE YEARS 1846 AND 1847.

Metals.	1847.	1846.	*In. in* 1847.	*Dec. in* 1847
Spelter .... *Tons*	3244	4577	—	1333
Copper	3553	3585	—	32
Iron, British	10976	8268	2708	—
Ditto, foreign	847	3506	—	2659
Tin-plates .... *Boxes*	7308	6988	320	—
Lead .... *Tons*	1099	630	469	—
Steel	552	815	—	263
Quicksilver .... *Bottles*	50	755	—	705

MINING IN PLYMOUTH AND DEVON.

Hingston Down Consols.—The underground operations have been resumed. The dressing department is progressing, and the work produces fully as much as was at first calculated upon.

The Callington Mines continue to look well. In about two months from this time they will be in a position to yield large quantities of ore from the newly-discovered copper lode at Kelly Bray. There is not much doubt of this making the richest lead and copper mine in the neighbourhood.

Silver Valley still looks poor; and unless an improvement takes place very soon, it is reported that she will stop.

Harrowbarrow Old Mine.—Operations at this mine are for the present suspended, although there is a good lode in the bottom level, and large quantities of unstamped tin at surface, and efficient machinery, &c., to make the same merchantable.

Wheal Calstock.—This mine is looking exceedingly well.

Wheal Yeoland.—The engine and stamps will go to work in about three weeks. The lode discovered about three weeks since has been opened on about 12 fms., is from 4 ft. to 8 ft. wide, and as rich as the old south lode; a ton of tin, by way of example, has been dressed, and is ready for the market.

Wheal Franco.—A man, called Benny, and a boy of the same name, had a very narrow escape through an explosion on Tuesday, the 4th inst., while they were tamping a hole. The man supposes that the tamping bar must have struck fire and ignited the powder; the man's face is much disfigured by the powder; and the boy's slightly, but the injuries are not serious. Very good stones of copper still continue to be raised in the capels of the lode in the 47 fm. level; and branches of very rich ore, dipping towards the lode, continue to be found in the 62 fm. cross-cut.

West Wheal Friendship.—We understand that this sett has been purchased by a London company, and is about to be vigorously prosecuted.

Plymouth Wheal Yeoland East.—Great numbers of shares in this mine have changed hands this week, at prices varying from 50s. to 5*l.*

West Caradon.—We understand that a very great improvement has taken place in this mine since our last.

Wheal Ash.—The horse of killas has nearly disappeared—the south part of the lode having increased in size, and being almost entirely composed of mundic, with a little spar, and small quantities of black ore.

Exmoor Eliza.—A fine lode, with regular walls, has been cut in this mine, composed of mundic, spar, and black, and yellow ore.

East Crowndale.—It is fully expected that, within three weeks from this time, the lode will be seen in the deepest level under the point at which the lode presented so favourable an appearance when last seen.

Tavy Consols.—The lode continues to improve in the shaft.

Birch Tor.—We were happy to see that the sampling yesterday was between 8 and 9 tons of tin.—*Plymouth Journal.*

NEW PATENTS.

T. Hancock, Stoke Newington, and R. Phillips, Islington, chemist, for improvements in the treating, or manufacture, of gutta percha, or any of the varieties of caoutchouc.

F. E. Pratt, Fenton Potteries, Staffordshire, earthenware manufacturer, for improvements in manufacturing articles composed of earthenware or china.

Mary Jenkins, Atton, Warwick, widow, for improvements in the manufacture of pins, hooks, eyes, and other fastenings.

E. Humphrys, Holland-street, Surrey, engineer, for certain improvements in steam-engines, and in engines or apparatus for raising, exhausting, and forcing liquids.

W. Froude, Darlington, Devon, civil engineer, for improvements in the valves used in closing the tubes of atmospheric railways.

R. Holliday, Huddersfield, manufacturing chemist, for improvements in lamps.

C. de Bergue, Arthur-street West, City, engineer, for improvements in carriages used on railways.

A. Robertson Arrott, manager of the Union-place Glass-works, St. Helens, Lancaster, for improvements in manufacturing common salt.

C. Lambert, Two-Mile Hill, St. George's, near Bristol, pen-maker, for certain improvements in machinery for making nails.

J. G. Jennings, Great Charlotte-street, Blackfriar's-road, Surrey, for improvements in cocks, or taps, for drawing off liquids and gases.—*Mechanics' Magazine.*

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—New Tanfield 18—Tanfield Moor 19—Wall's End Bell and Brown 24 6—Bell 24 3—Braddyll's Hetton 25—Haswell 25—Lambton 25—Whitwell 23 6—Caradoc 25—Hudson's Hartlepool 24—Leasingthorne 24—Trimdon 23 6—Byer's Green 20—Richardson's Tees 23—Tees 25—Whitworth 20—Blaengwaur 24—Derwentwater Hartley 23—Field's Silkstone 20 3—New Flockton 20—Snapethorpe 22—Cliffe 21 6.—Ships at market, 36; sold, 30.

WEDNESDAY.—Wall's End Killingworth 25 6—Lambton 26 6—Denison 24—South Durham 25—Cliffe 23—Blaengwawr 23.—Ships at market, 13; sold, 11.

FRIDAY.—New Tanfield 21—North Percy Hartley 24 6—Wall's End Heaton 25—Hilda 24—Riddell's 24 6—Wharncliffe 25—Belmont 26—Beckwith 24—Caradoc 26—Richaldson's Tees 23 9—South Durham 25—Tees 26—Sir John Hope's Steam 21.—Ships, 20.

GAS-LIGHT AND COKE COMPANIES.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
5,000	British (London)	£18	£1*	£17½
5,000	Ditto (country)	19	1½*	23½
1,000	City of London	100	10	290
1,000	Ditto New	100	10	290
4,000	Equitable	50	2½	38
10,000	European	20	1½	18
12,000	Gas-Light and Coke Chartered Co.	50	6	57½
6,000	Ditto New	10	6*	11 11½
9,000	General United Gas-Light Company	50	2	17½ 18½
10,000	Imperial	50	6	80½
40,400*l.*	Ditto Debentures	100	4	100
8,000	Imperial Continental	39½	4½*	54 56
7,000	Ditto New	28	4½*	61
54,500*l.*	Ditto Debentures	100	5	100 102
2,000	Independent	40	6	64
3,000	London	50	6	40
3,000	Ditto	50	5	48
9,000	Phœnix, or South London	43	5	35
1,000	Ratcliff	80	5	80
4,000	South Metropolitan	25	6	31 32

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	7	10
512	Albert Consols	1	2½
1024	Alfred Consols	4½	30
256	Alternum Consols	2	15
235	Andrew and Nangiles	28½	11½
10000	Ayrshire Iron Company	5	1⅞
1624	Balleswidden	9	18
128	Balnoon Consols	25	25
10000	Banwen Iron Co.	2	—
1000	Barristown	4½	10
4000	Bedford	2½	3½-¾
128	Besore Lead Mine	14	10
315	Birch Tor Tin Mine	24½	—
8000	Blaenavon	50	23
100	Botallack	175	80
120	Brewer	5	7
10000	British Iron, New, regis.	10	11-11½
—	Ditto ditto, scrip	10	12
128	Budnick Consols	52½	40
128	Burthy	20	21
100	Bwlch Cwmerfin	20	—
128	Callestock	17	30
1000	Callington	19	34
20000	Cameron's Steam Coal	4	3¾-⅞
256	Caradon Copper Mine	9½	1
256	Caradon Mines	22½	17
256	Caradon United	24	5
256	Caradon Wh. Hooper	21	12
1000	Carn Brea	15	102½
2048	Cascade	1	2
112	Charlestown	220	30
166	Cleveland	9	5
512	Coatlithe Hill	½	2
1900	Combmartin	7½	3
500	Comblawn	5¼	6
128	Comfort	45	90
256	Condurrow	20	34
2560	Cook's Kitchen	14	2
2048	Coombe Tin Mine	4½	2
1000	Coombe Valley Quarry	2	3
1000	Copper Bottom	1	1
1024	Cosheen	4½	20
240	Craddock Moor	15½	15
128	Creeg Braws	120	100
500	Cubert Mine	12½	15
2048	Dartmoor Consols	2	2
300	D.Prior & Buckfastleigh	14	26
7500	Demelza Mines	2	2
7100	Derwent	8½	5
1024	Devon&CourtenayCon.	7½	2
1024	Devon Great Consols	1	215
1000	Dhurode	2	5
186	Dolcoath	30	50
2560	Drake Walls	4	4
10000	Durham County Coal	45	9
3000	Dyfngwm	10	12½
256	East Alvenney	10	25
112	East Caradon	42	42
2048	East Crowndale	4½	3½
512	East Combe Silver-Lead	6½	6½
128	East Pool	5	20
100	East Rellstian	22	40
—	East Wheal Albert	1	3
94	East Wheal Crofty	280	125
256	East Wheal Fortune	2	3
128	East Wheal Rose	50	1200
2048	East Wh. Rough Tor	¼	2
—	East of Scotland Iron Co.	2½	⅝
123	East Wheal Seton	14	15
256	Elborough	1½	2
256	Exmoor Wh. Eliza	3½	6
512	Fowey Consols	40	45
6400	Gadair	2	2
20000	Galvanised Iron Co.	10	9½
10000	Gen. Mining Co. for Irel.	2	1¼
2048	Georgia Tin Mines	1¾	1¾
256	Gonamena	31½	45
128	Goonvrea	4	1½
244½	Grambier & St. Aubyn	—	10
100	Great Consols	1000	400
256	Great Callestick Moors	22	25
2560	Great Michell Consols	1¼	3½
256	Great Resugga Moor	7	6
512	Gt. Wh. Rough Tor Con.	13½	25
100	Grogwinion	5	—
256	Gwinear Consols	7	20
1000	Harrowbarrow Old Mine	8½	2
6000	Heignston Down Con.	½	2½
256	Herodscombe	4½	4½
256	Herodsfoot	16	18½
10000	Hibernian	12¼	1⅝
239	Hobb's Hill	6	3
1000	Holmbush	19	11
827	Kirkcudbrightshire	5¾	6
2048	Lamherooe Wh. Maria	11	4
128	Lelant Consols	90	60
160	Levant	—	90
1000	Lewis	15	6½
1000	Llwyn Malees	5	—
3600	Llynvi Iron	50	50
256	Lostwithiel Consols	15	15
6000	Marke Valley	10	3
5000	Mendip Hills	2½	1¼
5000	Merionethshire Slate & Slate Slab Co.	1½	2
20000	Mining Co. of Ireland	7	6½
256	New East Crowndale	3¾	3¾
128	North Fowey Consols	30	30
100	North Pool	45	370
70	North Roskear	10½	310
256	North Wh. Abraham	1	1
262	North Wh. Leisure	1½	2
128	North Wh. Providence	2½	3
15000	Northern Coal Co.	23	2
128	Par Consols	900	1000
4000	Pennant	1¼	2¼
100	Penrhiw	30	65
1280	Perran St. George Un.	13	20
128	Perran Wh. Virgin	9½	15
512	Plymouth Wh. Yeoland	4½	20
256	Polsaith Consols	4½	7
112	Providence Mines	35	45
10000	Rhymney Iron	50	20
10000	Ditto New	7	6⅞
256	Rose Consols	10	2
1000	Rosewall Hill	1	5
256	Rosewarva Mines	—	12
—	Shotts Iron Company	50	55
2500	Silver Valley	5	2
1100	South Dolcoath	3	2¼
128	South Caradon	10	450

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
256	Sth. Friendsh. Wh. Ann	16	25
200	South Harvannah	10	25
256	South Tolgus	7½	40
256	South Trelawney	20	8½
128	South Yeoland	16½	20
128	South Wheal Basset	110	85
256	South Wh. Betsey	2½	5
124	South Wh. Francis	160	200
256	South Wh. Hope	—	6
1000	South Wh. Maria	2½	2
256	South Wheal Rose	11½	1
256	South Wh. Sophia	4	4½
10000	Southern & Western, Irish	2	4
280	Spearne Moor	30	40
256	St. Austell Consols	9	10
94	St. Ives Consols	—	320
128	St. Michael Penkivel	5	10½
1000	Stray Park	43	20-2
9600	Tamar Consols	3	4
1024	Tavy Consols	4	9-10
6000	Tincroft	7	8
1000	Tin Vale	2	2
128	Tokenbury	143½	10
256	Trehane	2	27
5000	Treleigh Consols	6	3½
2000	Trenance	2	50
96	Tresavean	10	250
120	Trethellan	5	16
120	Treviskey and Barrier	130	130
288	Trevean	1½	25
128	Trewellard	12	26½
100	United Mines	300	350
256	Wellington Mines	15	30
128	West Basset	45	30
256	West Caradon	20	120
128	West Cargoll	2	12
512	West Fowey Consols	40	15
256	West Providence	9	25
200	West Seton	40	150
—	West of Scotland Iron Co.	210	210
120	West Trethellan	5	35
256	West United Hills	6½	1
256	West Wh. Friendship	9	12
3845	West Wheal Jewel	11	1½
2560	West Wh. Maria	2½	1½
2560	West Wheal Rough Tor	¼	2
256	West Wheal Shepherd	5	2½
256	West Wheal Tolgus	21½	5
256	West Wheal Treasury	19	10
5200	Wicklow Copper	5	11
184	Wheal Adams	51	10
1000	Wheal Agar	—	10
256	Wheal Albert	10	8
128	Wheal Acland	13	2
256	Wheal Allen	2	5
237	Wheal Anderton	18	25
128	Wheal Ann	—	50¼
512	Wheal Ann, Bridford	1	2
512	Wheal Anna Maria	—	5
1024	Wheal Ash	4½	8
120	Wheal Bal	5½	20
2560	Wheal Barbara	1½	4-5
256	Wheal Benny	10½	6
256	Wheal Blencowe	21	8
256	Wheal Bucketts	20	5
256	Wheal Calstock	3	4
136	Wheal Clifford	190	190
1024	Wheal Coad	⅛	1
128	Wheal Courtenay	—	20
6000	Wheal Curtis	2½	3-3¼
256	Wheal Dyke	12	13
256	Wheal Fortescue	6½	5
512	Wheal Fortune Consols	3½	6½
2048	Wheal Frederick	2	2
388	Wheal Franco	27	28
128	Wheal Harriet	45	50
256	Wheal Jane	21	15
256	Wheal Louisa	8½	8
112	Wheal Margaret	79	250
512	Wheal Mary Ann	5	17
256	Wheal Mary Consols	38	25
210	Wheal Prospect	4	7
120	Wheal Reeth	27	80
128	Wheal Rose	60	45
2048	Wheal Samson	½	20
99	Wheal Seton	214	1100
256	Wheal Sisters	29¾	20
256	Wheal Sophia	5	10
128	Wheal Spearne	10	75
128	Wheal St. Ann	9	15
260	Wheal Trelawney	7¾	90
256	Wh. Tremaine (St. Ervan)	4½	20
256	Wheal Tremayne	35	25
128	Wheal Trew	20	21
256	Wheal Trevenna	3	4
92	Wheal Tryphena	140	265
128	Wheal Venland	13½	4
256	Wheal Vlow (Perranz.)	⅜	⅜
184	Wheal Vyvyan	—	60
256	Wheal Williams	6	12

FOREIGN MINES.

Shares.	Company.	Paid.	Price.
5000	Alten Mining Company	14½	3½
15000	Asturian Mining Co.	11	3½
20000	Australian	2½	3
10000	Anglo-Mexican Co.	100	2
12374	Ditto Subscription	25	2½
6000	Barossa Range	⅞	2½
3000	Bolanos	150	3¾
2000	Ditto Scrip	15	3¾
12000	Brazilian Imperial	23	7
10000	Cobre Copper Co.	40	18
8500	Colombian Co. regis.	55	1
5000	Ditto Scrip	5½	
5000	Copiapo Mining Co.	14	2½
10000	General Mining Ass'n.	20	14
5000	Kinzigthal Mining Ass.	2	2¾
20051	Mexican Company	59	—
2000	Mexican & South Amer.	7	1¾
5000	Mocaubas & Cocaes	30	6
29320	Rl. del Monte, regis. / Ditto unregistered	28¾	1⅞
	Ditto Red Debentures	—	10
	Ditto Black ditto	—	8
	Ditto Loan Notes	150	60
7000	Royal Santiago	10	6
2000	Pachuca Mines	4	4½
11000	St. John del Rey	15	6¾
13174	United Mexican ...Av.	28¼	1¾-2

SOUTH AUSTRALIAN SHARE MARKET.

Shares.	Company.	Paid.	Price.
2000	Adelaide	5	7½
2464	Burra Burra	5	110
436	Grand Junction	15	28
'00000	Scottish Invest. Co.	1	1¼
18	South Para	15	50
1000	Poonawurta	—	9½-10
400	Princess Royal	34	259
10000	Royal Mining Company	½	1½
10000	Royal South Australian	—	55½
600	Victoria	2	3
500	Wakefield	2	3

*** We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

MISCELLANEOUS COMPANIES.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
10,000	Assam Tea Company	£20	—	£ 3
1,080	Auction Mart	—	£ ¾	28
10,000	Australian Agricultural	30	1	20
10,000	Australian Trust	35	—	30
8,000	British Alkali	25	4	16¾
10,000	British American Land	35½	—	14
8,600	British Rock and Patent Salt	35	18	11
8,915	Canada	32½	6	30
—	City Bonds (Navigation)	—	3½	89
1,800	Corn Exchange	37½	1½	26½
5,000	Droitwich Patent Salt	25	¾*	11
2,700	Equitable Reversionary	95	4½	90
—	General Reversionary Interest	100	5	100
0,000	General Steam Navigation	14	1¾*	23½
—	Hudson's Bay Stock	—	10	230 240
2,100	Hungerford Market	100	¾	—
1,500	London Commercial Sale Rooms	—	1½	31 32
8,000	London Reversionary	22	—	23 24
300	Margate Pier	—	10	196
10,000	Mexican and South American	7	—	3½ 4
20,000	New Brunswick	75	—	—
11,600	Peninsular and Oriental Steam	50	7	58½ 58½
6,600	Ditto	40	—	—
5,387	Reversionary Interest Society	100	4½*	97
—	Royal Mail Steam	—	5⅛	48½ 48
8,000	South Australian	25	6	—
20,000	Upper Canada	100	5	93 94
20,000	Ditto	—	5	93 94
10,000	Van Diemen's Land	20	—	4

Improvements in Railway Carriages.—A patent has been taken out by Mr. Beyer, of Abchurch lane, for a mode of connecting the axle boxes of railway carriage axles with the framing of the carriage, by which they will have a slight horizontal play, sufficient for them, when travelling over curves, to take a line parallel to the radius of the curve over which they may be passing. The disadvantages attendant on the use of coned wheels, as at present mounted, are the sudden and continuous jerks transmitted to the carriages, and thence to the passengers, and the twisting and contortion of the fibres of the iron composing the axles of the carriages. The axles under this patent are so arranged, as to check an undue horizontal motion, and allow of its self-adjustment, the movement only taking place on a curve; and when the carriage again pursues a straight line, the axle will regain its position at right angles with the side of the carriage.

Wigan Mines.—The quantity of water which entered the Wigan coal mines lately, by the irruption of the river Douglas, is calculated at 3,497,375 tons.—*Preston Chronicle.*

JOINT-STOCK BANKS.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
22,500	Australasia	£40	£3	£16
20,000	British North American	50	5	44½
20,000	Colonial	25	5	14½
—	Commercial of London	20	6	22 23
4,000	Ionian State	25	6	24½ 25
60,000	London Joint-Stock	10	6	15½
30,000	London and Westminster	20	6	23½
10,000	National Provincial of England	35	5	35
20,000	National of Ireland	22½	5	19½ 19¾
20,000	Provincial of Ireland	25	8	40 42
4,000	Ditto New	10	8	15¾
20,000	Union of Australia	25	6	24 25
10,000	Ditto New	2½	6	2½ 2½
60,000	Union of London	10	5	10¾

LEAD ORES

Sold at the Mine.

Mines.	*Tons.*	*Amount.*	*Purchasers.*
East Wheal Rose	105	£12 5 0	R. Michell & Son.
ditto	10	7 13 0	ditto
ditto	39	11 10 0	Mather & Co.
ditto	8	6 9 0	B. Somers.
ditto	28	12 12 6	R. Michell & Son.
Total tons	190		
Sold at Liskeard.			
Trehane	48	£15 0 0	Combmartin Co.
Sold at Holywell.			
Cwmystwith	62	£8 18 0	Newton, Keates, & Co.
ditto	40	8 15 6	ditto
Bronbeellan	10	8 15 6	ditto
Cowarch	35	8 17 6	J. P. Eyton
Total tons	147		
Sold in London.			
Bwlch Consols	27	£12 15 0	Newton, Keates, & Co

BLACK TIN.

Mines.	*Tons.*	*Price per ton.*	*Purchasers.*
Charlestown	13½	£42 15 0	Daubuz; Calenick; Williams.
ditto	1	41 5 0	Calenick Smelting Company.
Great Polgooth	24	44 15 0	Calenick Co. and Williams.
ditto	1	41 2 6	ditto and ditto.
Silver Valley	Tons 3 12 cwts.	33 5 0	Calenick Smelting Co.
ditto	2 0	29 12 6	ditto
ditto	0 10	30 12 6	Williams and Co.

COPPER ORES.

Sampled Dec. 22, and Sold at Andrew's Hotel, Redruth, Jan. 6, 1848.

Mines.	*Tons.*	*Price*	*Mines.*	*Tons.*	*Price.*
North Roskear	100	£5 6 6	South Wh. Francis	130	£5 15 6
ditto	97	6 13 0	ditto	92	12 3 6
ditto	86	4 13 6	ditto	71	5 13 0
ditto	82	4 1 6	ditto	52	12 9 0
ditto	81	4 14 0	Fowey Consols	92	4 17 0
ditto	67	1 18 0	ditto	84	5 13 0
ditto	66	6 11 6	ditto	82	5 1 6
ditto	65	6 8 0	ditto	61	2 12 6
ditto	59	6 4 0	Wh. Seton	118	5 12 0
ditto	51	1 18 0	ditto	113	4 2 6
ditto	50	6 11 6	ditto	83	5 3 0
Consolidated	106	7 4 0	Wh. Chance	103	5 8 0
ditto	104	5 16 0	ditto	68	6 14 0
ditto	91	6 16 0	Wh. Bucketts	48	5 8 0
ditto	84	5 9 0	ditto	29	3 2 0
ditto	80	4 19 6	ditto	28	2 7 6
ditto	76	4 19 0	Wh. Harriet	41	2 19 6
ditto	69	7 9 0	ditto	38	2 1 6
ditto	66	5 18 0	South Wh. Basset	54	10 4 0
Tincroft	78	3 18 0	Gt. Michell Consols	32	3 0 6
ditto	62	3 17 0	ditto	20	4 1 6
ditto	59	3 8 0	Lanivet Consols	28	3 16 6
ditto	50	2 8 6	ditto	13	2 9 0
ditto	49	3 3 0	Wh. Henry	31	6 14 6
ditto	45	6 15 6	Cook's Kitchen	23	5 14 0
ditto	42	2 13 6	ditto	4	0 12 6
ditto	41	1 7 6			

TOTAL PRODUCE.

North Roskear	804	£4063 3 6	Wh. Bucketts	105	£473 12 0
Consolidated	676	4106 11 0	Wh. Harriet	79	200 16 6
Tincroft	426	1492 14 0	South Wh. Basset	54	550 16 0
South Wh. Francis	345	2919 8 0	Gt. Michell Consols	52	178 6 0
Fowey Consols	319	1497 1 6	Lanivet Consols	41	138 19 0
Wh. Seton	314	1556 9 0	Wh. Henry	31	208 9 6
Wh. Chance	171	1011 16 0	Cook's Kitchen	27	133 12 0

Average Standard ....£ 99 1 0 | Average Produce 8¼

Average Price per ton £5 8 0

Quantity of Ore .... 3444 tons. | Quantity of Fine Copper, 282 tons 14 cwts.

Amount of Money £18,531 14 0

LAST SALE.—Average Standard......£ 98 19 0.—Average Produce...... 8

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	156	£760 2 0
English Copper Company	401	1658 14 0
Vivian and Sons	729	3423 2 0
Freeman and Co.	606	3049 6 10
P. Grenfell and Sons	317	1572 10 0
Crown Copper Company	17	48 3 10
Sims, Willyams, and Co.	455	2984 0 2
Williams, Foster, and Co	760	5035 15 2
Total tons	3444	£18,531 14 0

Copper ores for sale on Thursday next, at Andrew's Hotel, Redruth.—Mines and Parcels—Carn Brea Mines 910—Par Consols 343—Wheal Prosper 266—Alfred Consol 199—Levant 179—West Wheal Treasury 139—North Wheal Basset 59—Wheal Agar 53—Wheal Gurlyn 47—Wheal Tremayne 44—Providence Mines 32—Wheal Vor 8.—2279 tons

Copper ores for sale on Thursday week, at Pearce's Hotel, Truro.—Mines and Parcels.—Devon Great Consols, Wheal Josiah, Wheal Maria, Wheal Fanny, and Wheal Anna Maria, 1341—Poldice 240—Fowey Consols 240—West Caradon 237—Wheal Friendship 221—Wheal Jewel 168—Bedford United Mines 115—Wheal Maiden 41—Gonamena 35—Penpoll Co's Regulus 24—Point Regulus 18—Tamar Slag 13.—Total, 2693 tons.

QUARTERLY SALE OF COPPER ORES IN CORNWALL—Dec. 31.

Copper ores, 40,000 tons (21 cwts.)—Fine copper, 3367 tons 4 cwts.—Amount of money, 216,262*l.* 14s.—Average Produce, 8⅝—Average standard, 96*l.* 18s.—Average price per ton, 5*l.* 8s.

COPPER ORES

Sampled Dec. 15, and Sold at Swansea, Jan. 6, 1848.

Mines.	Tons.	Prod.	Stand.	Price.	Mines.	Tons.	Prod.	Stand.	Price.
Cobre	110	14⅞	86¾	£10 11 0	Chili	56	53½	80	£40 7 0
ditto	89	15	86	10 13 0	ditto	55	53½	79½	40 0 0
ditto	68	22	82½	15 17 6	ditto	54	53¼	79⅞	40 2 6
ditto	65	16⅞	85½	12 1 0	ditto	51	51⅞	80	39 5 6
ditto	24	17⅞	84	12 11 0	ditto	16	51⅞	80	39 5 0
ditto	88	22½	82½	16 0 6	Burra Burra	60	30½	84½	23 5 0
ditto	86	22⅞	82⅞	16 12 0	ditto	56	29½	85	22 17 6
ditto	75	21	83½	15 6 0	ditto	41	31½	85½	24 13 6
ditto	60	24	82	17 8 6	ditto	31	28	86⅞	22 0 6
ditto	44	24⅞	81½	18 0 6	Chili	74	25⅞	88½	20 7 6
ditto	39	24	81⅞	17 7 6	(not ready.)				
ditto	86	21⅞	84½	16 2 6	New Zealand	42	11	89⅞	7 12 6
ditto	68	23⅞	83	17 9 6	Cronebane	28	4½	120	2 17 0
ditto	64	24	82	17 8 6	ditto	6	3½	124½	1 16 0
ditto	40	14⅞	88	10 17 0	Ballymurtagh	32	4⅞	122½	3 2 0

TOTAL PRODUCE.

Cobre	1006	£14898 1 6	New Zealand	42	£320 5 0
Chili	232	9256 8 6	Cronebane	34	90 12 9
Burra Burra	188	4370 9 0	Ballymurtagh	32	99 4 6
Chili (not ready)	74	1507 15 0			

Total tons, 1608.—Amount of money, £30,542 15s. 0d.

Copper Ores for Sale January 27.—Cobre 122, ditto 117, ditto 110, ditto 87, ditto 86, ditto 74, ditto 14, ditto 28, ditto 5, ditto 25.—Chili 57, ditto 55, ditto 53, ditto 51, ditto 50, ditto 48, ditto 46, ditto 35, ditto 84.—Holyford 66, ditto 56.—Burra Burra 60, ditto 87.—Lackamore 54, ditto 7.—Chili 52.—Colombia 12.—Princess Royal 11.—Australian 9.—Total 1531 tons.

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Asiatic—14, Grafton-street	2 P.M.
MONDAY	Geographical—3, Waterloo-place	8½ P.M.
	British Architects—16, Grosvenor-street	8 P.M.
	Medical—Bolt-court, Fleet-street	8 P.M.
TUESDAY	Medical and Chirurgical—53, Berners-street	8½ P.M.
	Civil Engineers—25, Great George-street	8 P.M.
	Zoological—11, Hanover-square	9 P.M.
	Syro-Egyptian—71, Mortimer-street, Cavendish-square	7½ P.M.
WEDNESDAY	Graphic—Thatched-house Tavern	8 P.M.
	Pharmaceutical—17, Bloomsbury-square	9 P.M.
	Ethnological—17, Saville-row	8 P.M.
	Literary Fund—73, Great Russell-street	3 P.M.
THURSDAY	Royal—Somerset-house	8½ P.M.
	Antiquaries—Somerset-house	8 P.M.
	Royal Society of Literature—4, St. Martin's-place	4 P.M.
FRIDAY	Astronomical—Somerset-house	8 P.M.
	Philological—12, St. James's-square	8 P.M.
SATURDAY	Westminster Medical—17, Saville-row	8 P.M.

NOTICES TO CORRESPONDENTS.

It will at all times save much trouble, and frequently considerable delay, if communications are simply directed—

To the Editor,
Mining Journal Office,
26, Fleet-street, London.

Also, to avoid trouble, Post-Office Orders should always be made payable to William Salmon Mansell, as acting for the proprietors.

*** We should feel obliged to all pursers, captains, or adventurers, to forward particulars of meetings, &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the Journal with as little delay as possible.

"H. S. S." (Bristol).—No better information on the "Cost-book System" can be obtained than what has appeared, from time to time, in our columns. The address of the Pennant Mining Company is, 17, Dorchester-place, Blandford-square.

The question respecting the Wheal Barbara and Cascade shares has become quite a personal matter: we must, therefore, decline inserting the letters either of Mr. Fischer or Mr. Truscott, except as advertisements.

"W. M." (Woolwich).—The quotation of Coombe Tin Mine shares was forwarded to us by one of our regular City correspondents.

The Bubbles of the Past Year.—Though we agree with most of the strictures of "A Friend to Legitimate Mining," the letter is one scarcely fitted for publication. The projectors of the schemes adverted to, would naturally require us to insert their explanatory replies, which would open a discussion not at all calculated to benefit legitimate mining, or those concerned, and to which we are not disposed to lend our columns.

"S. C. C." (Durham).—We are unable to give the information required by our correspondent—or should be happy to do so.

The letter of our Paris Correspondent had not reached us when we went to press.

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses; not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

Glossary of Mining Terms.

During the present month, we intend publishing, as a Supplement, an Entire Glossary of English and Foreign Mining Terms.—Subscribers and others wishing for copies of the Number, had better forward their orders, through their agents, to prevent disappointment: the charge for the Journal and Supplement will be Sixpence.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, JANUARY 8, 1848.

In our last week's Number we took a retrospective view of the mining interest, congratulating our readers on the steady advance it has made; and from being considered at one time an ideality or shadow of wealth, has become, as demonstrated by the results of the past 12 months, an important feature, not only as affects our national wealth or resources, but the revenue arising from the application of capital in thus exploring our mines. No less a sum than 155,000*l.* has been divided in the shape of profits, arising from 30 mines in the counties of Cornwall and Devon alone, not exceeding one tithe of the number worked. Confining ourselves more especially to those mines which are to be found in the Ticketing Paper, and whose shares are known in the market, it will be our object on the present, as on future occasions, to direct more particular attention to the subject of mining, and prove that it is not only a legitimate mode of employing capital, but that the outlay conduces to the prosperity of the country.

We are well aware that, without private interest could be rendered apparent, we have but little reason to expect parties would embark in mining pursuits with the view alone to the public good; but when we find the two interests combined, it is manifest that the application of moneys to the object of mining, conducted as it now is (of course, there is no rule without an exception), is calculated not only to advance our national prosperity, but to fill the coffers of the capitalist and adventurer. It is to be regretted that in mining, like all other cases where money is embarked, we find certain black legs and "touters," who, regardless of the consequences which may attend the outlay of capital, look only to the advantages they can acquire at the present moment; and hence mining enterprise has, in many instances, been damped by the conduct—or rather, we should say, the misconduct—of parties, whose only object was self-aggrandisement and pecuniary gain, feeling no interest as to the results. We have, from time to time, directed attention to the mining industry of this country, and the large returns made on the investment of capital; while a reference to our Share List will show the high prices of shares in mines, where a comparatively insignificant expenditure only has been incurred; at the same time, that the correspondence from the agents, which will be found in our columns, give a journal of the proceedings or operations at the mine, conveying to the adventurer an account of the progress made, as it also serves as a guide to the new adventurer.

We believe no question has ever been raised as to the advantages attendant on mining, when taken on a large scale. That there may be certain isolated instances, where losses have arisen, notwithstanding the best and most economical mode of operations has been pursued, and the mines have been under the management of the best practical agents we admit; but these, we venture to say, are but few, and far between, when compared with the splendid returns arising from the several mines, cited in our last Number, as rendering profits. There can be no question as to the advantages attendant on mining where honest management exists, and practical and experienced agents are employed. That we shall have an increased capital embarked in mining pursuits, no doubt can exist; and that such will be attended with increased beneficial results to "One and All"—the capitalist, and the working miner—we augur with that confidence which the past justifies, and which the presents warrants, us in concluding.

We can barely bring ourselves to believe that the question of fortifying the coasts of the kingdom, together with the reorganization of the national defences, is a subject within the range of those legitimately falling within the sphere of our observation—nevertheless, a theme, which is in everybody's mouth, cannot, for a moment or so, be out of place in the columns of any journal. The movement is founded on a letter of his grace the Duke of Wellington, dated so far back as January, 1847. It appears that the illustrious commander had endeavoured to impress on several succeeding administrations, the propriety of taking measures for the better security of the kingdom against invasion; and that, in his opinion, it had become an imperative public duty to arm the coast, and increase the army, as permanent measures against any hostile irruption by which the integrity of our shores might be violated. The duke himself has been a most influential member of *several successive administrations*, for some years before the date of his letter; and, we believe, it is not known to the public that he took any steps whatever to put the coasts of this island, or the army, in that condition which he now declares to be so essential. During thirty years of peace, the coasts have been allowed to remain as naked of all defence as they now are; and the erection of them into a new power, and an additional weapon of offence, puts nothing into the hands of an enemy which it does not as fully and as freely put into our hands for his chastisement. Steam having bestowed its benefits generally, and without respect of nations, how are we worse off, when trusting to this new element for defence, than when we availed ourselves, for that purpose, of all the winds of heaven?—or in what sense is the foe better off? By all means, arm your southern sea-wall, embody the militia of the counties, and increase largely your steam and sailing navies; but do not tell us that steam has conferred any benefits on any known people, which it has not as largely and as liberally conferred upon us. But arm—arm to the necessary extent—without delay. In summer and winter, in calm or in storm, we ought to have the absolute command of all the proximate waters of these islands. No day of the year, no year of the century, ought to find us unprepared for any emergency. To our minds, there is no more danger now than when the *entente cordial* was at its maturity; for our coasts have always been open to the assault of any foe hardy enough to make it—they have been peeled of their warlike furniture, and dismantled for a show; but when we have again adorned them with the fiery apparel they should ever be dressed in, let us never so far deceive ourselves as to forget, that a navy filling our island havens and seas is our best weapon and our surest refuge.

In our columns of to-day will be found a report of the proceedings at the ordinary half-yearly meeting of the proprietors of the Santiago Mining Company, from which it will be observed, that the operations of the company have been attended with a loss of upwards of 5900*l.* during the past six months, although it is satisfactory to find, from the latest advices, as well as the result of the last three months' workings, that the mines are not only paying cost, but hold out good prospects of profitable returns. The chairman, in the course of his address, congratulated the proprietors on the foresight and prudence which had been manifested by them, in placing a portion of the funds raised, as also part of the profits, to a reserve fund, amounting, at the present moment, to 40,785*l.*, which had been invested, so as to yield an interest applicable to the working of the mine—at the same time, that it precluded the necessity of making a call, which it was most desirable to avoid. We understand, from the remarks made by Baron de Goldsmid, that, at the next meeting, it will be proposed to allocate a certain portion of the amount, thus reserved, among the shareholders, by way of bonus—the directors feeling that, with the mines possessed by the company, and the prospects they present, a less sum will be fully adequate to meet all contingencies. In doing this, we feel persuaded the proprietors generally will agree with us, that the directors act with a degree of prudence; and the course recommended—as emanating with themselves, will be duly appreciated. We regret to find the Sanctuary ground to be still a bone of contention, although it might be assumed, from the Cobre Company being in possession, and working it, that they had an undisputed right and title; this, however, appears to be by no means certain, although we are well aware of the difficulties which present themselves in the law courts of the Havannah. We believe that there "might overcomes right," and the longest and best-filled purse will, at all times, secure, not only the advocacy of counsel, but the verdict of a jury; while the Bench, at times, are apt to *mistake* the real position of the parties, or the justice of the case, and with confused ideas occasionally, express an opinion, or give judgment, in a manner which, we presume, is to be attributed to some cause, more readily imagined than explained. It, however, appears the directors of the Santiago Mining Company are not yet beaten out of the field, but contemplate further measures. That they have our best wishes, as also the earnest desire, on the part of not only their own proprietary, but of every honest shareholder, we may assure them; and we trust the day is not far distant, when we may congratulate them on honour being the victor; and that equity, if not law, will render to them that to which we consider them so justly entitled.

In another column, furnishing a report of the proceedings at a meeting of the shareholders in the Wheal Curtis Mining Company, will be found the resolutions at which the proprietors arrived—in all of which, we cannot, however, express our ready concurrence. Before making any observation on the peculiar feature to which we would invite attention, we may offer one or two passing remarks on the affairs of the company. That the mine possessed by the company is of value, we believe no doubt is entertained, nor has such been expressed, while the errors committed, and the large expenditure incurred, would appear to have worked their own cure—the directors now having been in harness sufficiently long to know the nature of their work—in a word, they begin to know their business, and are not gulled by misrepresentation—they have an eye to economy, and they look to having 20 shillings' worth of work for every sovereign, with the hope, as we think, they may well entertain, of the returns for the labour, or capital, employed, yielding handsome profits to the proprietors. The reports lately received from the mine—extracts from which are inserted in our "Mining Correspondence"—are good; and the quality of the ore in course of raising, if we are to judge from the stones produced at the meeting, will give 12 to 14 per cent. produce—while one or more points of working are more than paying cost. It is to be regretted that so heavy an arrear of calls should be due. We, however, feel assured that the circulation of the report submitted to the meeting, will, at once, secure the ready payment of a large proportion—while it will behove the directors to take the necessary measures for declaring such shares forfeited, and at once sell them for the benefit of the company, on which any call may remain unpaid, after a certain notice has been given. This we do not, however, anticipate will be the case, as it is evidently for the interest of the shareholders to meet the payment of the calls due—thus placing the mine in an independent position, and, in all probability, rendering further calls unnecessary. We now approach the more immediate subject of our remarks, and would briefly premise, that, in commenting on the proceedings, or any part thereof, we disclaim all idea or intention of reflecting upon any individual, but take up the question as generally applying to the *constitution* of boards of directors. It will be seen, among other resolutions, one passed at the meeting, was that of—the election of the solicitor of the company to fill one of the vacant offices in the board of directors. To this, we demur; we think that the solicitor of the company should be independent, and unconnected with its management; while he should be dependent on, and strictly observant of, the instructions of his employers—the board of directors—to whom he is responsible; for if we at once place the solicitor as one of a board (although it may be provided that he shall not exercise any power which may involve him or the company in his two-fold capacity), then we consider we lose the power which should exist, and, at the same time, destroy that independence which we have at all times found the members of the legal profession ever desirous to maintain. The gentleman to whom these remarks apply, we believe not only to be highly respectable, but a man of scrupulous honour, and, as a proprietor, largely interested in the welfare of the company. We can well understand the advantages likely to arise from his appointment to office; but we contend that, if his services be valuable as a director, he should at once retire from the office of solicitor. His legal attainments would, doubtless, be useful to the board, although it is to be hoped their exercise would not often be called for; but we repeat, the two offices appear to us to be incompatible. We had occasion to advert, some time since, to a solicitor, acting also as a director, and in other capacities, of a certain company—the consequences are pretty generally known. We make no comparisons—far from it; it is alone on principle that we object; and, having expressed the opinion we entertain, now take leave of the subject, trusting that, at the next meeting, the gentleman referred to will be found to have well performed his office as director—while his services as solicitor, have not, in any way, been required.

It was entirely from an oversight that, in the few observations of last week, as to the mining capabilities of Australia, we did not mention the subject of royalties on the ores raised in that district. The original and abstract right of the Crown to these dues has never, upon any authority that we know of, been disputed—the proposition has never taken that form. Our own observations had reference, not to the right itself, but as to the policy, of immediately enforcing it. To us, the right appears to be coeval with the feoffment of the lands themselves. Immediately on obtaining legal possession, all the secondary and household rights of the Crown take effect also—the royalty and the sovereignty proceed *pari passu*—the propriety of at once enforcing it is quite another question of circumstances and of expediency. The condition of these colonies, considering their comparative infancy, and the possible insufficiency of their independent resources, calls for a cautious and considerate treatment on the part of the parent state. The Australias, however, have profound elements of prosperity, to which these ancient and partly exhausted islands can make no pretension; their vast and fertile superficies is a magazine of wealth to them for centuries to come; and they do not carry any part of the daily burthen of these kingdoms—which must be borne to pay the public creditor, and to continue the public service. Considering their circumstances and our own, we do not see how they can justly contend for the non-imposition of the royalties—they were clearly liable to them in full; and we think the Government modification of the claim from 15 per cent. to *one-fifteenth*, is a considerate and liberal adjustment of the subsisting differences. For our own part, we could more cordially concur in a five years' cessation of the royalty on *home-raised* ores, than on their five years' cessation in the colonies. Their suspension there would operate as a direct bounty on their importation into the European markets; and we are not aware that the mining interests at home are at this moment so prosperous as to justify us in conceding, though to our own countrymen in the colonies, so great an advantage.

The projected alterations in the French tariff are looked forward to with great interest by the great commercial body in France. The Minister of Public Works has announced to the Chambers that the Government intends to bring forward measures with respect to the carrying out of the different railways, for which the various companies have had concessions granted them, but as yet are, in many instances, only commenced, whilst they ought to have been nearly finished, and open to the public. This delay is justly attributed to the impossibility of the iron forgemasters to supply a sufficient quantity of rails, and the monopoly they have exercised for a long time, in keeping up high prices for every description of railway material, and the non-fulfilment of contracts. Although so many companies have been formed in France, and that chiefly by British capitalist, it is a fact that the only grand trunk lines which have as yet been finished, are those from Paris to Amiens, Arras, Lille, and the frontiers of Belgium; and from Amiens to Boulogne-sur-Mer (which is now open as far as Abbeville, to Neufchatel, and will be entirely finished early this year) in the north, from Paris to Rouen and Havre in the west, and Strasbourg on the east; whilst those in the south to Lyons, Avignon, and Marseilles, Orleans to Tours, Bordeaux, Toulouse, and other branch lines, are nearly at a stand-still for the want of rails, locomotives, &c. The Ministers of Finance and Commerce now find that the protective system which has been so fallaciously bestowed to encourage the ironmasters, will be the ruination of thousands who have speculated in railways; and unless there is an alteration made on the exorbitant import duties on foreign iron and cast metal (for railway purposes only), the result will be most serious to the public. A *projet de loi*, or Act, to alter the Custom duties on foreign metal, will be presented by the Minister to the Chamber of Deputies as early as possible, and no doubt will meet with great opposition even on the part of those who are generally in favour of the Government; but we are glad to see that a strong feeling exists among the liberal, free-trade, and anti-monopolist Members in the Chamber, for a revision of the Custom laws, and by the leading mercantile men throughout the country. The battle will, no doubt, be strongly contested by the protectionist party; but if the Minister be sincere in carrying the measures he intends to propose, he is sure to come off victorious, and give public satisfaction; for in France, as well as in this country, there is the strongest feeling against monopoly, be it in metals, coals, salt, or other articles necessary for the prosperity of the national industry, for the sake of satisfying the grasping parsimony of the few. The present state of the French mercantile navy, in consequence of the restrictions on foreign cast metal, has been a general outcry among the merchants, and we are glad to see that the Minister of Marine (the Duke de Montebello) is strongly in favour of a reduction on its importation for ship-building and machinery.

Contracts of British Coal for India.—The demand for British coal for India is rapidly increasing in proportion as steam navigation is being extended in that portion of the British Empire. We perceive that the Court of Directors of the East India Company have given notice, that the Finance and Home Committee will be ready, on or before Wednesday next, the 12th inst., to receive tenders for supplying the Company with *three thousand tons of coal*, to be delivered at Aden, on the northern coast of Arabia. The Commissioners for executing the office of Lord High Admiral of the United Kingdom of Great Britain and Ireland have also given notice that, on Thursday, the 20th inst., they will be ready to treat with such persons as may be willing to contract for supplying and delivering into store, at Singapore, 300 tons of coal, fit for the service of her Majesty's steam-vessels. These are the first contracts for the present year.

Smelting Copper Ore in America.—There are establishments for smelting copper at Boston and at Baltimore. At Boston, the smelters have long been extensive refiners and manufacturers of copper, and they manufacture the product of their smelting-works. At Baltimore, the ores have been chiefly obtained from Cuba; at Boston, principally from Cuba and Chili. The Swansea method of smelting, with reverberatory furnaces, both for calcination and reduction, has been adopted, but they use equal parts of anthracite and bituminous coal. At Boston, the German method, with calcination in the open air, and reduction in the small upright blast furnace, with anthracite coal alone, is preferred. In Baltimore they have six or eight furnaces in operation, with an experienced manager from Swansea. In Boston the arrangements are on a much more extended scale. Freights from Cuba to Boston or New York are much lower than from Cuba to Wales. It is suggested that the best method for smelting would be, as in England, to carry the ores to the coal. What is the nearest place to the mines on Lake Superior, where there are anthracite coal mines? It is estimated that a ton of anthracite coals will reduce 2 tons of 20 per cent. ore. About $55 are paid per ton, at Boston, for 20 per cent. ore; freights from Cuba are over $6, and from Chili $15.—*Silliman's Journal.*

A Severe Disappointment.—At the meeting of the British Association at Oxford, the geological section made an excursion. The natives of the explored region were very much at a loss to conjecture what it all meant. The vehicles, the number and sturdy appearance of some of the excursionists, and, so far as they could see, the absence of all motive for the gathering, puzzled the country people exceedingly. At last, when a party, who had formed a circle round Dr. Buckland to hear his explanation of the conformation of the surrounding country, had broken up and was leaving the ground, one wondering native was heard to remark to another, in a tone of severe disappointment, "I say, Roger, why, dang me, if it ar'nt all over. They've broke up the ring, and there ar'nt going to be no fight arter all."

The Electric Telegraph.—On the 1st inst., the Electric Telegraph Company opened the metropolitan station in Lothbury, for the transmission of communications to upwards of 60 of the principal cities and towns of Great Britain. The company's lines now extend over more than 2300 miles. The only large towns *not* in communication with the metropolitan station, are—Bath, Exeter, Plymouth, Brighton, Chatham, Oxford, and Preston. For the present, the company are contenting themselves with a rate of transmission not exceeding six words a minute, and they do not hold themselves responsible for any given rate of speed. Mr. Bain's plan, by which 1000 characters per minute may be telegraphed, has been purchased, but not yet carried into practice, by the company. The charges are high—being for the transmission of a message of about 100 words from London to Liverpool 5*l.*; and so on in proportion for other places. But no doubt these will be diminished when the company's arrangements get more matured, and they are better able to transact any amount of business which may be offered to them. The directors appear to be acting on the policy of checking rather than encouraging the use of the telegraph by the public, until their establishments are everywhere in perfect working order.—*Mechanics' Magazine.*

Original Correspondence.

THE KILBRICKEN MINES, IRELAND.

SIR,—As I perceive in your Journal, of the 1st January, under the head of "Mining during the Past Year," some very inaccurate remarks on the Kilbricken Mine, in county Clare, Ireland, I must beg you to publish the following correction of them; at the same time, I cannot help remarking, that before you introduce the names of parties, as you have done in this instance, you should take care to ascertain the truth of your information. The half of Kilbricken Mine was sold to the present company by myself only, being the sole lessee and proprietor at that time, for which I received the sum of 5500*l.*, undertaking to pay 3000*l.* into the London and Westminster, as capital for the new company, and which undertaking I duly performed. The remaining sum of 2500*l.* (though this requires no explanation from me, being merely the conditions of sale) was disposed of as follows—viz.: 2000*l.* to repay myself, that sum being the amount I had paid Mrs. Crockford for her interest, and 500*l.* to cover money laid out in law expenses, and the mine cost incurred during the time occupied in the formation of the company. Let me also here observe, I have not yet received the amount of purchase-money by several hundred pounds. If the Member for Bodmin has been deceived, it has been by himself, as he took care to inspect the mines in person, and also to have the report of a mine agent in whom he had confidence; but I am still of opinion, that neither he nor any other shareholder will find himself disappointed, when the object for which the company was formed—viz.: "to erect machinery, and sink the mine below the old workings"—has been attained; at any rate, it is quite premature to profess themselves so till this is accomplished. The only real cause for dissatisfaction is, that more outlay has been required to carry out this object than was anticipated, at which I think any one who has been concerned in mining operations will not be surprised. I have myself paid two calls since the formation of this company, and feel satisfied that this mine is as desirable an investment as ever.—HENRY CROCKFORD: *Queen's Ferry, Flintshire, Jan.* 4

[On inquiry, we find that we were wrong in stating 5000*l.* as the sum charged for half the Kilbricken Mines, by Mr. Crockford; it should have been 6500*l.* The company was divided into 1300 shares, of 10*l.* each; 650 were retained by Mr. Crockford free, and 650 sold by him at 10*l.* per share—total, 6500*l.*; of this, 3000*l.* he paid towards working cost: balance, 3500*l.* in his favour. We are informed, that it was generally understood this sum was to purchase Mrs. Crockford's interest, and the present shareholders looked upon Mr. H. Crockford as her agent in the affair. The shares were worked up to an enormous premium, upon the representations that it only required greater steam-power to make immense returns. The chairman of the first meeting even went so far as to offer a bet that dividends would be declared in less than 12 months. It was further stated by Mr. Crockford, that up to the time of his selling half the mines, they had left large profits, and had yielded 1200*l.* in Sept., 1846; another director stated at the meeting, that 10,000*l.* of ores were discovered. Capt. R. Williams—Mr. Crockford's captain—reported on the 22d Aug., 1846 (about the time of the sale of half the mines), that he thought 90 to 100 tons of ore per month could be raised, and this ore was said to be worth 30*l.* per ton. Twelve months afterwards this same Capt. Williams, in a report dated Nov. 8, 1847 (and which, if we are rightly informed, he was sent to Ireland specially to make), says—"I find, on my inspection of these mines, that the orey ground I left on my removal is worked away to a great extent." Again—"From its altered appearance in the present bottoms, to what it was when I left it in the winter of 1845, it would appear to be diminishing in its descent considerably—so that it is difficult to say what its monthly yield is likely to be at the 30 fm. level." The shareholders, finding the concern so totally different from what they were led to hope, and their shares valueless, are naturally led to make inquiries upon the subject.] ——

THE KILBRICKEN MINES.

SIR,—In your article on "Mining during the Past Year," published in your last Number, speaking of the Irish mine Kilbricken, you therein reflect upon the conduct of one of the directors, or promoters, and say—"You are told that he has altogether backed out of the concern." As I am the individual there alluded to, and as such statement is incorrect, and prejudicial to my character, I beg to set you right. I have "backed out of the concern" no further, up to this time, than by resigning my share in the direction, for reasons which I assigned at the public meeting of the company in October last. I am still, I regret to say, the largest holder of shares among the new adventurers, having at present 145-1300ths, and under promises to take back from my friends 70 more; which will make my loss on 215 shares (presuming the mine should ultimately prove a total failure) double the amount of any other shareholder. The hon. Member for Bodmin, to whom you allude, is the next largest holder; he has 100 shares, and would be a loser to the extent of 1200*l.* at least. If the hon. Member has been deceived, so have I, and to a much greater extent. It is true, that I sold some shares at 5*l.* premium, and might have readily sold all I held at that price; but I also bought at a premium; and the loss I shall sustain on the shares I agreed to take back again, in case of failure, will alone more than double any amount of profit I have made. I also exchanged three shares I had held for years in the Halkin Mines, for which I had paid 2100*l.*, and could have sold for 800*l.* cash, for 100 shares in Kilbricken, upon which I have since paid 550*l.*, and am liable to calls for 200*l.* more. Upon this transaction alone, I shall be a loser of 1500*l.* I merely mention this last circumstance, in conjunction with my promises to take back shares, to prove that I had the greatest confidence in the value of the undertaking, and, therefore, rather merit compassion than reproach for any interest I have taken in the affair. I do not think the term *deception* can be applied, with justice, to any parties concerned. Before Mr. Wyld took any interest, he visited and had the mine inspected by a competent person; and before I ventured to recommend it to my friends, I went to see it, in September, 1846. We both found all the representations that had been made to us quite correct. The mine was then making large profits, and from the report of Captain Richard Williams, of the Godolphin Mines (a man of acknowledged talent and integrity, whose report, I believe, was published in your Journal in October, 1846), we had every reason to hope and believe, that with greater steam-power, those profits would be increased fourfold.

There were 5000*l.* absolutely paid, for one-half of the mine, to Mr. Henry Crockford, who had bought Mrs. Crockford's interest. Such price was then considered very reasonable—not even two years' purchase; for in the month of September, 1846 (the last of working by the Messrs. Crockford), the mine realised upwards of 700*l.* profit, and had been clearing money for several months previously. Soon after this, the floods set in, and the mine was re-opened in the spring of last year by the new company. We had not, however, worked more than two months, before we unfortunately found the ore either to decline or cut out entirely in all the old workings; and it is now left to ascertain, by sinking with the large engine just got to work, whether the predictions of Capt. Williams, Capt. Job, Capt. Buzzo, and others, are correct. It is quite true, that a deposit of rich ore, for some considerable extent in length, is gone down, the value of which can only be proved by sinking, and driving deeper levels.

I have been engaged in mining speculations, in Cornwall and elsewhere, for some years; and, were it relevant to the point in question, I could prove to you that I have been deceived (or disappointed, I would rather say) to the same extent as in Kilbricken—viz.: to the loss of all the money I embarked. I could also prove, that at one time I have refused 170*l.* per share in a mine paying handsome dividends every two months; and that within nine months of that period, the said mine has cut out entirely, and my shares worth 10*l.* each only—the value of the materials. With regard to premium on shares, I have paid, both in Cornwall and in Devon, 5*l.* per share premium on 10s. paid, for adit driving only, without a discovery even, or a pound's worth of materials on the mine. Now, in Kilbricken there was, at the time of its disposal, a good and profitable mine, and materials to the value of 3000*l.* at least.

Next to the heavy loss I am likely to sustain myself (which I can ill afford), I regret the losses of my friends in Kilbricken, most of whom were induced at my suggestion to embark therein. I have been, perhaps, too sanguine in my views and expectations; but I utterly disclaim having had the slightest intention of deceiving either my friends or the public.—W. C. EVANS: *Jan.* 5.

[Having made some remarks upon the letter of Mr. Crockford, a few words will suffice here. We never taxed Mr. Evans, or any other "director or promoter" with *wilfully* deceiving. We stated that the representations upon which the shares were worked to a premium had not been borne out—this Mr. Evans himself confirms; he also confesses to having backed out of the concern, inasmuch as he has resigned his seat in the direction, for reasons which he gave to a public meeting. Mr. Evans was chief promoter of the concern, chairman of the direction, and took a prominent part in forming the company, framing its rules, &c. What, then, was the reason he so suddenly resigned? Mr. E. states, also, that before he recommended the mine to his friends, he went to see it in Sept., 1846, and that he and Mr. Wyld "both found all the representations that had been made to us quite correct." These representations, we presume, were, that not having sufficient steam-power, the Crockfords could not work deeper, and that they had left a rich course of ore in the bottom workings. If Mr. Evans found this to be correct, how is it he goes on to state, in another paragraph of his letter—"We had not, however, worked more than two months before we unfortunately found the ore either to decline, or cut out entirely in all the old workings." Let Mr. Evans compare these with the extracts quoted above from the two reports of Capt. Williams; and let him confess that it shows, before the mines were delivered over to the present company, every particle of ore that could be touched was either worked away, or the bottoms never were so rich as reported.]

"THE MODEL MINE"—WHEAL TRESCOLL.

SIR,—My attention, in common with the generality of your readers, has been directed to the announcement of the "Model Mine;" and it was with some impatience and interest, that I awaited the publication of your last Number, when we were to be illumined by the ways and means being described, whereby these desirable objects were to be accomplished—viz: the avoidance of all errors, and the certainty established, of acquiring wealth from prosecuting the working of mines on the "model" scheme. I regret to say, although I have read the explanatory advertisement over more than once, that I cannot exactly comprehend what are the peculiar advantages held out, or what novelty the Model Mine presents to the public. I will briefly recapitulate the several points to which any novelty can be ascribed, and leave to you, and your readers, to determine where the advantages lie, or what constitutes the peculiar claim to the support and patronage of the mine adventurer, or the capitalist. Wheal Trescoll, or the Model Mine, it appears, is to be divided into 550 shares, with a call of 1*l.* per share, and carried on under the Cost-book System—the mine having been selected expressly "as one presenting the fewest obstacles in carrying out the *novel* experiment, of placing mining on an entire *new* and *reform* principle." Now, let us see what is the novelty and reformation contemplated—in the first instance we have, as purser and responsible manager, a gentleman, who, if I mistake not, resides within the sound of the bells of St. Paul's, and who, however respectable, should, I take it, be located somewhat nearer to the "model," so that he might inspect it at times. It appears, then, that to commence with the Model Mine, 800*l.* is *to be paid* for the grant, the mine having been suspended for a series of years; and for the advantage thus held out, it is contemplated that a further sum of 300*l.*, or 50 shares, of 6*l.* each, shall be given as commission to those who have framed "the model"—thus 1100*l.* is to be paid, or 2*l.* per share, to start with, which, considering all circumstances, is somewhat modest. But let us proceed to the proposed workings, for in them there may be some further novelty, in addition to that of asking a bonus for an abandoned mine. The intention appears to be to drive "a deep adit *three fathoms (!)* under the old workings, being a cross-cut, to intersect all the lodes, which, it is assumed, will be 137 fms. in length, in decomposed granite, the cost of which will not exceed 20s. per fm., timber *included*. All works are to be submitted to public competition, and the lowest tender accepted, provided the securities are approved by the agents and the manager." This certainly is novel! and with a capital of 250*l.* to start with, as contemplated in the "model" prospectus, we can well imagine the responsibility and the onerous duties which will devolve on the agents and manager, not to refer to the "purser and responsible manager."

It is to be expected that the 137 fathoms of level, or cross-cut, will be driven, and the whole 17 lodes and branches can be fully developed in six weeks! but the prospectus very fairly states—"It would be perfectly absurd for the proprietors to hold out any visionary prospects of what the mine will, or may, pay, as the whole concern is an experiment;" but then we are told that any one can take the coach, and "with the assistance of a pick," he may raise as much ore as he pleases, and have the stones bruised down on the spot, and the *tin* handed to him. What may be the quantum of *tin* required, or the *quid pro quo*, does not exactly appear. Economy, I am glad to find, is the leading feature, and I would recommend this "model" scheme to many of the present companies, for it is perfectly unique—the whole of the expenses are guaranteed not to exceed 144 guineas per annum, in which are included the rent of offices and committee room in London, the salary of a "purser and responsible manager," two agents on the mine, a visiting clerk, who is to keep and *disburse* all the accounts, with count-house maid, post boy, &c., including, I presume, books, stationery, postages, travelling charges, plans, surveys, ticketting expenses, *cum multis aliis* petty charges. I must, however, conclude this rather lengthened epistle, but cannot do so without inviting the attention of those gentlemen, who may be disposed to embark in the Model Mine, to the P.S., which, like that of a lady's letter, ever is deemed the most important; it is to this effect, that, "On commencing operations, a *body* of shareholders shall go down and break themselves the first ton of ore, have it stamped down and dressed in their presence the *same day*, send it to the smelting-works in the adjoining *parishes*, have it smelted, and each bring away an ingot of pure metal, bearing on its surface inscribed the name of the Model Mine." Really, Mr. Editor, this is much too good—such chances are unparalleled; but I, for one, am afraid I shall not be able to avail myself of the opportunity so kindly proferred.—A. A. H.: *Redruth, January* 4.

THE METAL TRADES.

REVIEW OF THE METAL TRADE DURING THE PAST YEAR.

SIR,—We beg to hand you our usual review of the prices current which ruled in the past year. The commercial difficulties which then occurred naturally caused a considerable falling off in the demand for metals; but, it may be observed, that, notwithstanding these disastrous circumstances, the reductions in prices which ensued were not important.

IRON.—Independently of the cause above referred to, this article has been affected by the reduced demand for railway purposes, but not to the extent anticipated; the export orders, although limited, together with previous contracts for rails, having kept most of the makers tolerably well occupied. The decline in Welsh bars has been very gradual—the total reduction from 1st January last to this date being about 35s. per ton. Railway bars, of easy pattern, have frequently been supplied, of late, at the same price as ordinary merchant bars, by parties who have had rollers adapted for them. In Staffordshire sheets and hoops the business was brisk until October—since when orders have greatly fallen off. A reduction is fully expected to be made by the makers at their next quarterly meeting, in the middle of this month—consequently, our present quotations for Staffordshire iron must be considered nominal. In Scotch pig the transactions were small, compared with those of the two previous years; and, with very trifling fluctuations, the decline was unbroken from 74s. to 46s. Some forced sales were made within the last three months, 4s. to 6s. lower; but the general position of the market was not affected by them: there was a good demand for home use, but the exportation was small. Of Russian, although several parcels of CCND, PSI, and Gourieff, came into this port, they were either imported for home use or trans-shipment: there were several orders here for these brands, but, from our market having only a small supply of Archangel, they could not be executed. Of Swedish, we have had an average importation, the major part of which was shipped to the United States—very little either of this or Swedish steel having been sent to India: the stock of each is light.

COPPER was in very good demand throughout the year; and, notwithstanding the depression in other metals, it advanced twice, and maintains the rise at the present time, with sufficient orders to take off the make. The same remarks apply to yellow metal sheathing. Of foreign copper there were several importations of Turkish, Chilian, and Norwegian—all of which, except 80 tons of refined Chilian ingots (the residue of 200 tons), held at 90*l.* per ton, met with a tolerably ready sale.

TIN.—English was in good request nearly throughout the past year; and, in the first three months, the supply was scarcely adequate to the demand. As the period of the Dutch sale approached buyers held off, and the price, as was expected, declined; it afterwards dropped lower—making a total fall on common of 16s. per cwt. Since the last reduction, orders have increased: the demand continues good, and stocks are low. Banca and Straits have undergone a greater reduction than English—caused, no doubt, by the large quantity of the former (120,000 slabs, or about 3600 tons) placed on the market by the Dutch East India Company in July. This sale did not, however, affect the price so much as was anticipated; scarcely any has been sent here for sale, and very little having been imported from India, the price of this quality has been maintained better than that of Straits, of which, although the stock is small, there are more holders. The following is a summary of stock, imports, &c., in the past year:—

Of both sorts, the stock on hand 1st January, 1847, was	*Tons*	210
Ditto imported during 1847		1045
Total	*Tons*	1255
Ditto exported during 1847	*Tons*	430
Ditto cleared for home consumption		305 — 735
Leaving a stock this day of	*Tons*	520

TIN-PLATES.—The demand throughout the past year was unusually dull, owing principally to most foreign markets having been well supplied at the close of 1846: coke quality has lately been in rather better request.

LEAD has partaken of the general dullness; but, although the demand was chiefly for home use, the decline in price has been very insignificant; the stocks with smelters and dealers are reported to be low, and there is every prospect of the existing rates being maintained. No American came into this port during the year; but, at Liverpool, 35 tons arrived from New Orleans—30 of which were re-shipped for New York, where the price offered the importer a decided advantage. Of Spanish, the quantity sent here in 1847 is estimated at 3027 tons, mostly of hard quality, containing silver, and nearly the whole of this was shipped to Newcastle to be desilverised.

SPELTER underwent several changes, but they were not very sudden, nor was the extent great. The stock for an entire year has not, for a considerable time, ranged so low as in the past. It is scarcely needful to remark, that the disarrangement of business connected with India caused a very considerable falling off in exports to that market; and, in fact, the difference between what was shipped to the East in 1846 and 1847, is equal to the whole of the stock now on hand, amounting to 2000 tons, which includes, at least, 500 bought for exportation and home use, but not yet taken out of warehouse. The total of last year's imports was about 8950 tons—the lowest price was 17*l.* 10s., in the middle of November, when a brisk demand arose, and it has since gradually advanced to our present quotations. For spring shipment a few hundred tons have been recently sold at 19*l.* per ton, but some dealers ask 5s. more.

The stock in London 1st January, 1847, was	*Tons*	2400
Imported into ditto during the last year		8950
Total	*Tons*	11,350
Exported from London ditto	*Tons*	3119
Stock on hand		2000 — 5119

Exhibiting as having been cleared for home consumption in 1847.... 6231 *tons.*

Austinfriars, London, Jan. 1. JAMES & SHAKSPEARE.

SIR,—I beg to hand you, according to custom, some remarks on the operations in the metal market during the year:—

IRON.—Scotch pig has suffered a decline of 30s. per ton since last year. During the first two or three months of this year, the price, which had previously reached 78s. for No. 1, began to evince symptoms of a fall, and sales were shortly after made at 71s., with 69s. for mixed Nos.; the market, however, rallied, and contracts were made as high as 75s. and 76s.; after which it has, with continual fluctuations, dropped to the present quotation—viz.: No. 1, 46s. 6d.; mixed Nos., 45s. The highest cash price paid during the year has been 78s., and the lowest 42s.

The exports from Scotland, as far as can be ascertained at present, have been—

In 1847, about	*Tons*	325,000
Those in 1846, were about		313,000
The stock at the end of 1845, was estimated at	*Tons*	240,000
" " 1846, "		144,000
" " 1847, "		90,000
Showing a decrease, as compared with last year, of		54,000

The market, at present, displays no activity whatever. Welsh pig is very dull at 4*l.* for cold-blast, and 3*l.* for hot-blast, free on board, in Wales. Welsh (merchant) bar, at the commencement of the year, was firm at 9*l.* free on board, in Wales, with an upward tendency. The market remained stationary for three or four months, when the price slightly gave way; a better demand sprang up, and considerable transactions took place at about 8*l.* 10s. per ton—it has at length succumbed to the general overpowering influence, and business has been done as low as 7*l.* per ton, free on board, in Wales; the price, however, may be more correctly quoted at 7*l.* 5s. per ton—3s. per cent. for cash. Railway bar was sold to some extent, in the early part of the year, at 9*l.* 10s., in Wales; but, being subject to greater competition than bars, the price has gradually sunk below the quotation for that description—purchases have been made, without difficulty, within the past month at 7*l.* 5s., while orders may now be executed as low as 7*l.* per ton, free on board, at the shipping port. It is worthy of remark, that the German masters have lately contracted with one of their own railway companies, to supply 5000 tons of rails, for delivery in 1848 and 1849, at a price equivalent to about 5*l.* per ton, deliverable in Wales. In Staffordshire iron a large business has been done, and prices have shown very little alteration, until within the past two or three weeks; orders may now be executed fully 30s. below the last quotations. Staffordshire pig, cold blast, 3*l.* 10s. per ton at the works; bar, 8*l.* 10s. per ton, free on board in London; nail rods, 8*l.* 15s. per ton, ditto; sheets, singles, 10*l.* 10s. per ton, ditto; hoops, 10*l.* per ton, ditto. I have quoted the prices at which orders may be executed at this moment, but as the quarterly meeting in Staffordshire is to take place on the 13th inst., the position of the trade will be better known, but I fear those figures will not be improved upon. Swedish iron has changed hands to a large extent, principally for shipment to America and India; the ruling price has been 11*l.* to 11*l.* 10s., but by far the most business has been done at the former rate, while in one instance 10*l.* 15s. delivered over-side was accepted; the price is nominal, with a very small stock. Russian: No sales here to report, the stock consists of about 70 or 80 tons Archangel, held at 13*l.* 10s. per ton; and 50 tons PSI at 15*l.* per ton, without demand. Swedish steel is without any demand whatever, from 16*l.* per ton for keg, at which business was done in February, the price came down to 14*l.* 5s. in July; while a large parcel in second hands has been lately offering at 13*l.* without buyers. Faggot has been sold at 16*l.* 10s. for India; of the latter there is scarcely any to be had in London.

BRITISH COPPER.—The demand having been very good, prices have advanced 16*l.* per ton; this metal has been less affected than any other by the occurrences of the past year, partly by the safer system of business adopted by the dealers, but more particularly from the fact of the trade being confined to a few hands, the principal of whom are of considerable independence. Tough cake, 98*l.* per ton, 2½ discount in London; tile, 97*l.* per ton, ditto; sheathing and bolts, 11*d.* per lb., ditto. Of South American, the arrivals during the year have been about 450 tons in Liverpool and London; the prices realised have been 84*l.*, 83*l.*, and 77*l.* 10s. per ton for the continent—200 tons refined ingots in London, remain unsold at 90*l.* per ton.

TIN.—British has taken the opposite turn to copper, and whereas at this period last year bars were held at 99*l.* 10s., the price is now fixed as follows—83*l.* 10s. for bars, discount 2½ per cent.; 82*l.* for blocks, ditto. Banca flat, at 83*l.*; Straits, 80*l.*

BRITISH LEAD has sold slowly and quietly—there has been no new feature to observe. The market is dull at 18*l.* to 18*l.* 5s. per ton for pig, 2½ per cent. discount in London; 18*l.* 15s. to 19*l.* per ton for sheet, ditto. Of American, though much in demand, we have no arrivals. Spanish has been sold as low as 16*l.* 15s., the remaining stock is now held at from 17*l.* 5s. to 18*l.* per ton without demand. Some lots of ore from Sydney have arrived, which have sold freely to the trade at remunerative prices.

SPELTER, as intimated in my last circular, continued to improve, and from 19*l.* 5s. to arrive, the price rapidly reached 21*l.* 10s. to 22*l.* 10s. per ton, at which figures about 1000 tons went off in Hambro'. The state of the India markets notwithstanding brought the price down as the year advanced; while it was still more depressed by two or three forced sales, in one instance, as low as 17*l.* being accepted for immediate cash. A slightly increased demand, with the smallness of stock, has, however, improved the prospects of this article, and holders are now firm at 19*l.* 15s. to 20*l.* on the spot, and 19*l.* 5s. to arrive. The stock is about 1800 tons.

TIN-PLATES have shared in the downward movements of iron and tin, and considerable business has taken place at lower rates—sales having been made, in some instances, as low as 23s. per box, for IC coke, delivered in London. The prices at present range as follow—viz.: IC Coke, 23s. 6d. to 24s. 6d. per box, 3 per cent. for cash, free on beard in London. Charcoal, 27s. 6d. to 29s.—C. R. MOATE: *London, Dec.* 31.

THE IRON TRADE IN SCOTLAND.

Pig-Iron Works.	Fur. in Blast.	Out of Blast.	Total.
Gartsherrie	16	0	16
Dundyvan	8	1	9
Clyde	5	2	7
Govan	4	2	6
Calder	3	5	8
Langloan	5	1	6
Carnbrae	3	3	6
Glengarnock	6	1	7
Summerlee	5	1	6
Monkland	9	0	9
Coltness	4	2	6
Omoa	4	0	4
Shotts	3	1	4
Castlehill	2	1	3
Blair	0	5	5
Muirkirk	0	4	4
Garscube	0	2	2
Carron	3	1	4
Devon	2	0	2
Forth	4	2	6
Kinniel	4	0	4
Lugar	0	4	4
Eglinton	0	3	3
Total	90	41	131

The Net Cash Price of Pig-Iron for Mixed Numbers per ton, delivered free on board here.

	1845.	1846.	1847.
January	£3 5 0	£4 0 6	£3 14 0
February	3 14 6	3 17 6	3 13 6
March	5 5 0	3 11 0	3 12 0
April	5 7 6	3 5 0	3 11 0
May	4 8 0	3 9 6	3 6 0
June	3 5 0	3 8 0	3 5 0
July	3 5 0	3 11 0	3 9 0
August	3 7 6	3 14 0	3 8 0
September	4 2 0	3 14 0	3 7 0
October	4 10 0	3 10 6	3 0 0
November	3 17 6	3 9 6	2 11 6
December	3 16 0	3 12 6	2 7 0
Average	£4 0 3	£3 7 3	£3 5 4

Stock on hand 31st Dec., 1846	*Tons*	140,000
Stock in store and makers' hands 31st Dec., 1847		80,000
Reduction of stock	*Tons*	60,000
Exported, foreign and coastwise, from Glasgow, Kirkintilloch, Frith of Forth, Ayr, Troon, and Ardrossan, this year	*Tons*	390,000
Consumed in foundries and in making malleable iron here		150,000
Total	*Tons*	540,000
Computed make in 1847	*Tons*	480,000
Reduction of stock brought down		60,000—540,000

Railway bars	£8 15 0	per ton, free on board here.
Bar-iron	8 10 0	
Railway chairs	4 7 6	

It will be observed, that the consumption and exports of pig-iron have exceeded the make by 60,000 tons. It is gratifying to remark, that so large a quantity has been exported this year, exceeding the last or any former year by fully 30,000 tons; and as heavy orders are contracted for to be exported in the spring, we may reckon on no falling off in 1848, but that its exports will be greater than 1847, as we always find a low price ensures a large export of this article. The make this year has fallen off considerably; next year we may expect a further decrease unless prices advance, as it is obvious that the present price will not pay the makers. It must be admitted that the home consumption this year has been less than the preceding, and this is accounted for from the stoppage of a number of railways; but should monetary affairs become easier, it may be expected that an increase in the home consumption will take place. The price to-day of mixed Nos. is 47s. per ton, cash, in 14 days, which is 24s. per ton below the average of the last three years.—T. THORBURN & Co.: *Dec.* 31.

MINERAL RESOURCES OF AFRICA.—The voluntary surrender of Abd-el-Kader, the undaunted foe of the French in Algeria, to His Royal Highness the Duke d'Aumale, Governor-in-Chief, is one of the important events of the new year, and is looked upon by the French nation as the greatest political conquest since the days of Napoleon. This heroic chief has defied the whole of their forces for the last 17 years; and although he is now in their hands, not as a prisoner of war, there is little glory to be added to their laurels in Africa, by the surrender of one who, in consequence of the exhaustion of the sinews of war, harrassed by the troops of the Emperor of Morrocco, and the probability of treachery in his own camp, by foreign money and intrigue, felt no other alternative left him, in order to save the brave followers who had devoted their lives and their all in his cause. His glory is untarnished by any acts of wanton atrocity against his invading enemy, who, with upwards of 100,000 men, he kept in constant alarm, with only a few sworn defenders of their religion and liberty. His career is even admired by the French themselves, although he was their deadly foe; and in Paris the greatest preparations have been made at the Palace of the Elysee Bourbon by the Government, for the reception of the Emir, with his numerous wives and *suite*; but, in all probability, he will remain at Toulon, until the result of the communication between France and the Viceroy of Egypt, Mohemet Ali, as to the permission of his return to Alexandria or Acre, is known. In the meantime, it is to be hoped that the French Government will honourably observe the convention entered into by the Governor-General of Algeria, under which Abd-el-Kader surrendered, relying on their good faith. In consequence of the repeated attacks of Abd-el-Kader, the mineral resources of Algeria *have only been explored in a portion*; for the working of the extensive iron, copper, and other metallic mines, which are known to exist in various parts of that colony, was too hazardous an adventure whilst he was in that part of the globe; but now that he is no longer to be dreaded, there is no doubt that mining speculations will be carried out to a very great extent—roads will be cut, furnaces and smelting-houses established, and all those improvements which have for years been contemplated by the French Government, will now be accomplished *sans peur*, and, should peace continue, Algeria will become one of their finest possessions in mineral industry, agriculture, and wealth, by the emigration which will naturally take place. We have on various occasions, alluded to its metallic resources, and shall see with pleasure their development by European industry and science, which will be the means of civilising that once barbarous portion of the world.

CLARKE AND VARLEY'S ATMOSPHERIC RAILWAY.

Fig. 1.

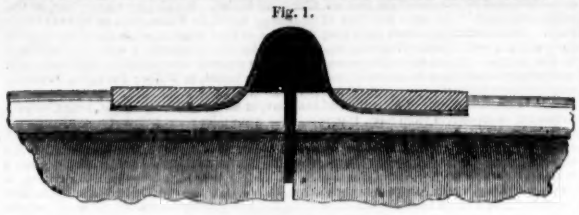


Fig. 2.

Fig. 1.—Section of the new metallic joint (full size), where the ends of two sections of tube butt together.

Fig. 2.—Plan of fig. 1.

In the last notice which we gave of this plan of railway propulsion, on the 4th December last, we stated that the experimental tube had been relaid with the new corrugated copper joints, described in the *Mining Journal* of the 21st August, with diagrams. Since then, great pains have been taken to ascertain the real merits of the invention, and to draw such deductions from the working of the experimental line as would give something like a true idea of its operation in practice. This is at all times difficult; and, notwithstanding the attention bestowed in the manufacture of the sections of tube, the careful planing of the edges of the longitudinal opening, turning the ends, securing the joints, &c., it has, from close examination in the experiments, been found that the experimental tube is not near so perfect as the patentees themselves, and those who have watched the progress of the invention, during the past two years, considered it. This may clearly be accounted for, from the fact of every part being worked by hand, and fitted together, as it best could be; by which method, notwithstanding every care, some of the sections are found a trifle less in diameter than others; and the longitudinal opening has been ascertained to be not so perfect as was anticipated—whereas, in carrying this invention out on a large scale, machinery would be constructed for forming the tube, planing the edges and the ends, and rolling out the joint pieces with mathematical precision—and thus the results which have been arrived at in the late experiments are far *below* what may be expected, when the thing is properly carried out in practice. Even as it is, they are highly satisfactory; and the leakage—the principal evil to be overcome—is estimated, in the working of this 15-in. experimental tube, to be less than a fourth of that calculated by Mr. R. Stephenson to be due to the tube of the same diameter on the Dalkey line.

In the experiments made, between November 29th and December 13th, by Mr. Gravatt and Mr. Hays, every possible test was applied by which they might arrive at just conclusions; and from their report, which we subjoin at length, we think it may be assumed that the elastic tube is superior to any other system of longitudinal valve for atmospheric railways—that its safety, certainty, and economy, are undoubted—and that the day is not far distant when it will be taken up by railway companies, and the public ascertain its merits from actual practice.

TO THE PROPRIETORS OF CLARKE AND VARLEY'S PATENT ATMOSPHERIC RAILWAY.

GENTLEMEN,—In compliance with your request, we have now to report to you the results of our examination of the experimental railway tube at Blackwall. In an examination of the conditions required in the application of the atmosphere as a medium of power, it becomes at once obvious that the leakage of the apparatus is the principal source of the waste of power, as it is that which exercises so great an influence in diminishing the practical velocity of the tube piston; and, in consequence, that of the train attached to it, below the velocity due to the working of the air-pump. This was, therefore, the point to which our principal attention was directed. Our first care was to have the tube in such order, as might be fairly said neither to be above nor below its probable working condition. This occupied our time at intervals from the 29th of Nov. to the 13th Dec. It is right to state, that the experimental tube, from which our deductions are drawn, is far from being in that perfect condition in which it might be with proper workmanship. Some of the lengths of tube, for instance, are as much as ¼ inch less in diameter than the adjoining length; and the longitudinal aperture in some places stood open as much as 1-40th of an inch, and did not close effectually until the tube came under the pressure due to 12 inches of vacuum. This state of the tube is no matter of surprise, considering it is a first experiment – it is, indeed, much better than could have been expected under the circumstances; and, although a great source of trouble to us in our experiments, would not occur in practice. The point of great difficulty in the construction of long lengths of metal tubing—viz.: that of combining full scope for the effect of expansion and contraction with freedom from leakage at the points of junction of the several lengths of tube, seems to be very perfectly overcome by the expanding metal end joints. The method of joining prevents the possibility of leakage between the band and the tube; and, although the closing of the bands was found very efficient, we think further experience will suggest some simple contrivances that will render that part of the apparatus more perfect.

The principle of the longitudinal aperture is decidedly good; we are not aware of any mechanical contrivance so likely to be found effectual in practice, both from its great simplicity, and independence of any extraneous matter subject to be acted upon by changes of temperature or weather. In our experiments, we found that the application of a little boiled oil to the joint very much improved its air-tightness. The use of this substance, or, perhaps, tallow or lard, will preclude the necessity for extreme nicety of workmanship in this part of the tube, and thus effect some saving in the first cost. We imagine, therefore, that in practice a little of some such material should be applied, from time to time, to preserve the working condition of the joint; but the attendance of one man to every four miles of tube (which we have calculated on in another part of our report) will be found sufficient for this purpose. In ascertaining the leakage due to the tube alone (the main object of our inquiry), it was first sealed at both ends; a vacuum was then obtained, and, after shutting off all communication with the pump and connecting pipe, by means of a slide valve, the fall of the mercurial gauge, together with the time that elapsed, was noted. The result given is, from the mean of the observations through a range of the scale, from 23 inches down to 12 inches. Care was taken to include only those made immediately after running the carriage backwards and forwards through the tube at least 10 times. This, as far as concerns the joint, it must be remarked, is equal to twenty journeys, because the tube was opened and shut both ways. In ascertaining the leakage due to the piston, one end only of the tube was sealed, the piston being inserted in the other end, and the piston carriage held back by a bar placed across the tube. The fall of the gauge was then noted as before, and the leakage, so found for the piston, separated by calculation from that previously found to be due to the tube alone. The greatest range of temperature in one day, during our experiments, was from 60° to 44°. We should have been glad to have tried a much greater variation of temperature, but 16° was the greatest that happened during the time allowed for the experiments. The rate of leakage through a range of the scale from a vacuum of 23 inches down to 7 in. or 8 in., is found to be so nearly uniform, as, for all practical purposes, to be assumed as quite so. This we took some pains to verify, by causing two holes of different diameters to be made in the tube, and examining the rate of leakage by those holes, separated from any other source. As the nearly constant rate of fall of the mercurial gauge has been generally attributed to the joint being closer at high vacuums than at low ones, we take this opportunity of saying, that this could only arise from a false theory having been assumed. By the true theory, and also by the direct experiments alluded to, which were made for the purpose, it appears that there is no occasion for supposing any such difference in the state of the joint. The result, then, of our examination of the leakage, is, that the average fall of the mercurial gauge was about 2-10ths of an inch per minute for the tube alone; that the leakage of the piston, while in a state of rest, is comparatively trifling, when spread over a mile or more of tube. According to this, the combined leakage of the tube and piston is about 43 cubic feet per minute for one mile in length of a tube the same size as that used at Dalkey—viz.: 15 in. diameter; and this would be about the rate of leakage for any greater length. The leakage given by Mr. Stephenson, in his report, as the average on that line is 186 cubic feet per minute for one mile of tube, which also includes the leakage of the piston in a state of rest. The waste from these two sources is, therefore, in this case, less than *one-fourth* of that on the Dalkey Railway.

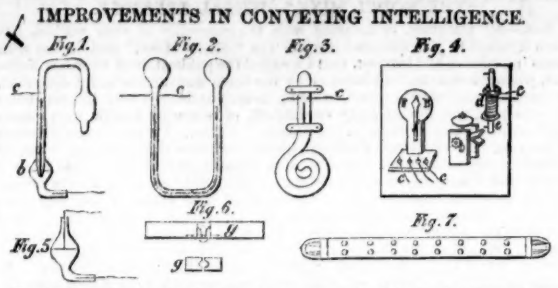
As regards the points of economy in construction and maintenance, the first cost of a tube, 15 inches diameter, will, we think, be about 3500*l.* a mile. As to maintenance, we have, of course, from so short an experimental line, no means of arriving at anything like accuracy; but the construction and working of the apparatus is such, that the expenses cannot be considerable. It does not appear that the cost of maintenance of Clegg and Samuda's valve is as yet very clearly ascertained; but, from published documents, we learn that on the Dalkey line two men per mile were employed in attending to the valve, when the leakage given in Mr. Stephenson's report was ascertained.* The first cost of the sealing composition is stated at 250*l.*, and the allowance per mile per annum for the maintenance of the same is 15*l.* There is no doubt that in Clarke and Varley's joint the attendance of one man for every section of tube—say, four miles—would be quite sufficient, and what little oil or grease would be required is an item scarcely worth mentioning. In all our remarks on this invention, we have borne in mind that we have not been called upon to report on the atmospheric system, as compared with the locomotive or any other mode of railway traction, but simply to consider the merits of a new invention in atmospheric railways; and, as such, can only draw a comparison between it and one that has been already some time in practice, and which owes its existence to the skill and energy of Messrs. Clegg and Samuda.

We think it our duty to state, that the air-pumps that we found in use on the experimental line, are very defective, and we are, therefore, unable to give any results, which might have been drawn from the working of the pumps. These may be made sufficiently effective, at a very slight expense. The leakage in the connecting pipe is considerable, but that also might be easily remedied. On the whole, we consider that the results arrived at in our experiments, are such as to justify our reporting to you, that the invention, as regards the entire atmospheric system, is one of great importance and promise.

London, Dec. 16. WM. GRAVATT; W. BENNETT HAYS.

* We ought to state, that Mr. Samuda has since estimated one man a mile as sufficient.

IMPROVEMENTS IN CONVEYING INTELLIGENCE.



[Specification of patent, dated 22d June, 1847, granted to John Obadiah Newell Rutter, of Brighton, for certain improved methods, or apparatus, for conveying intelligence.]

This invention consists in, and has reference to, the uses and application of electricity for the purpose of conveying intelligence. The specification, which sets forth the manner in which this may be effected, is divided into five different parts, according to the several purposes to which this invention is applicable—commencing, *first*, with its application to houses for conveying intelligence from one part to another, whether such intelligence be with regard to the breaking out of fire, or entrapping of burglars therein; and afterwards enumerates the application thereof severally to ships at sea, for *mining purposes*, or as a means of ascertaining the degree or increase of temperature in bodies, whether in an æriform, liquid, or solid state, which is particularly essential in conducting chemical experiments. It sets forth, further, the application of such invention to the purpose of establishing a communication, or conveying intelligence, between the guard and engine-driver of a railway train, or between the passengers and guard; and two sheets of drawings are annexed, illustrative of the means by which this invention may be carried into practical effect, from which, in conjunction with the specification, the following description is gathered:—Mr. Rutter states, that the agent he employs as the medium for conveying intelligence, is electricity, in one or other of the forms known by the names of "magnetism," "electro-magnetism," "magneto-electricity," or "galvanic electricity." The *first* part of this specification, which sets forth the application of this invention to dwelling-houses, is as follows:—In one or other of the rooms, he places a battery, and employs that known as "Smee's," or a sand battery; and such battery should be locked up, or otherwise secured, against the interference of domestics or others. In connection with one of the poles of such battery, he attaches one end of a copper wire—the other end being attached to an alarum apparatus—situate in any other convenient apartment—such as the sleeping apartment of the master or mistress of the house, or in the sleeping room of one or other of the domestics or watchmen on the premises. The construction of this alarum is as follows:—It consists of three principal parts—viz.: a vertical galvanometer, an alarm bell, a small electro-galvanic coil, and a bar or rod of iron in contact therewith, which are operated upon as further described. Now, the opposite end of the wire before mentioned is connected to this alarum apparatus, and thereby establishes a communication between it and the battery; and, in arranging the apparatus for detecting fire in the dwelling-house, the patentee disposes several of one or other of the thermometers exhibited at *figs.* 1, 2, 3, of the accompanying diagrams—those marked *figs.* 1, 2, being differential thermometers, and that marked *fig.* 3, constant—the latter one being more particularly applicable for giving notice of the precise temperature at which it is required to raise any particular body or place—the metal wires being suitably arranged for that purpose; whilst the former are intended to establish a communication with the battery, upon any sensible increase of temperature, in the place where they are situated, or such an increase as would be consequent upon the existence of accidental fire in the house or building; he proposes to place several of these thermometers, at convenient distances asunder, along the passages, and in the rooms of a house near the ceiling—the wires being connected together in a somewhat similar manner to the wires in bell-hanging. The ends of the wires are connected to each of the said thermometers by a platinum wire; and, when each of the thermometers are thus connected together, they are finally connected to the battery and alarum by a wire from each of the outer thermometers, and the circuit completed, so as to actuate the alarum in manner following:—Assuming that a fire breaks out in any unoccupied apartment of a house or building, or at a time when the inmates have retired to rest, it will appear evident that the thermometer situate in the particular locality of such fire, will, by virtue of the increase of the temperature of the atmosphere at such part, cause the mercury in said thermometer to expand, or be raised therein, either by pressure of the expanded air contained in the bulb, *a*, in the differential thermometer (*fig.* 2), pressing upon the surface of the mercury at *b* (as exhibited at *fig.* 1), or by the simple expansion of the mercury in the constant thermometer; and such expansion will have the effect of bringing the mercury into contact with the wire, when the electric circuit being completed, the electric current will pass from the battery to the alarum (*fig.* 4), and cause the electro-magnetic coil, *d*, to release its hold of the bar or rod of iron, *e*, which falling by its own gravity, and the end coming into contact with a catch, attached to such alarum, will release it, and cause the bell to ring violently, and for any length of time, according to the extent to which the spring is wound up; at the same instant, the needle, *f*, will be acted upon and deflected, so as to point to the letter F, upon the dial, which denotes "*fire*"—thus, when the noise of the alarum has had the effect of awakening the person in the room, such person may instantly ascertain, upon looking at the dial, the cause of the alarm, and act accordingly.

The patentee states that, in arranging this apparatus, for the purpose of detecting the entrance of burglars into a dwelling-house, he adopts the following plan:—In connection with the window-sash, he places a metal bolt (exhibited at *fig.* 6 of the diagram), formed with a hemispherical end, which, when the window is closed, is flush with the sash; but upon the window being opened, the bolt being brought opposite to a hole in a a plate, *g*, fixed to the sash-frame, will fall by its own gravity therein; and by connecting to the said plate the wire, which is attached to the nearest thermometer, and the wire in connection with the opposite pole of the battery, it will appear evident that the circuit, which before was interrupted by the separation of contact of the metal at this part, will now be completed, and the alarum actuated in the manner before described, with respect to the before-mentioned arrangement for detecting fire; at the same instant, the needle, *f*, will be acted upon, and deflected in an opposite direction, and point to the letter, B, which signifies "*burglars.*" The patentee states that, for windows—the sashes of which move vertically—he proposes to employ an extra pulley, over which he passes a wire, which is in connection with the battery; and he proposes passing wires through the sash-lines, such wires being in connection with a thermometer, of the construction exhibited at *fig.* 5, where *h* marks a platinum wire, the upper end of which is in contact with, or fixed to, the wire, or sash-line, fixed to the sash, the thermometer being placed within the framing of the window, behind the pulley stile, so as to prevent its being tampered with. It will be obvious, that by this arrangement, as the lower sash is raised, or the upper one lowered, the metallic circuit will be completed, by the platinum wire coming into contact with the mercury in the thermometer, when the alarum will be actuated in the manner before described. The patentee states that, for the sake of distinction between the wires employed severally, for conveying intelligence in the manner set forth, he prefers that the wires should be covered with coloured threads—for instance, those wires leading from the thermometers, employed for detecting "*fire*," should be bound round with red-coloured thread; whilst those leading to the battery should be of a different colour, as also those employed for conveying intelligence of "*burglars*," and those communicating from thence with the battery, by which any disarrangement of one or other of the wires may be readily traced and repaired. The patentee states, that this mode of conveying intelligence may be advantageously applied to various other purposes, some of which are before enumerated. The concluding arrangement, set forth in this specification, is intended for the purpose of signalising between the guard and engine-driver of a railway train, or between the passengers and guard, and is as follows:—Upon the guard's seat, or within the box in which he sits, is placed a battery—from one of the poles of which there extends a wire, or several short lengths of wire, of the length of each carriage, such wires being in connection with the coupling chains, which connect the carriages to each other; and upon the handrail of the locomotive engine is placed a wire, which is insulated, by placing the same between two pieces of leather; and there is another and similar wire placed apart from, but by the side of, the before-mentioned wire, which communicates with the other pole of the battery, in a similar manner to the former wire. In connection with each of these wires, there are two rows, or sets, of brass buttons, placed opposite to each other, and at regular distances asunder, which protrude through the upper surface of the leather, that encloses the said wires. As it is customary for the engine-driver to place his hand frequently upon the ordinary handrail of the engine, it will appear evident, that by placing his hand upon any two opposite buttons, arranged, or dispersed thereon, he will be in a position to receive a shock from the battery, upon the guard completing the electric circuit, consequent upon making a signal to him—the power of the shock being so regulated, as to afford no sensible pain, but sufficient to call forth the attention of the person having charge of the engine. The patentee contemplating the uncertainty of the man having his hand always upon the rail at the precise period of time when the guard may require to make a signal (any omission of which would be fatal to the mode of conveying intelligence, or communication), proposes, instead of arranging the wires along the handrail, to fasten them around the wrist of the engine-driver, by which he would, at all times, be in communication with the battery on the guard's seat, or box. How far either of these last-mentioned arrangements may succeed in practice, time only can determine—at all events, if there is nothing to recommend its adoption, its novelty appears unquestionable. The claims (which are lengthy) are preceded by a disclaimer of the use, or application, of electricity, for the purpose of conveying intelligence generally; but the arrangement and apparatus set forth, when actuated in the manner, and for the purposes severally enumerated, as examples by which the invention may be carried into practical effect, are claimed as new.

Patent-office and Designs Registry, 210, *Strand, Jan.* 4.

Original Correspondence.

MR. W. P. STRUVE'S MINE VENTILATOR.

SIR,—In reply to some observations which have been made on my mine ventilator by Mr. J. Cadman, of the Tondu Iron-Works, as well as by Mr. H. Hartop, Barnborough Hall, Doncaster, I beg to say that, if these gentlemen will read my specification, they will find that I admit what they state; and I take this opportunity of adding to their information, that the pumps they describe have been in use in Cornwall, and in this country, for a long period of time. In reply to Mr. T. Deakin's letter of the 23d Dec., who addresses himself to the practical part of the subject, I feel obliged to him for his advice, and for the unprejudiced view he takes of my plan of ventilation, by saying he would like to see it tried, and that he wishes me success. The first experiment is the difficulty in all new systems, because one is baffled at once by the question of experience in the new plan, and there can be no experience till it is tried; but if practical men, like Mr. T. Deakin, give encouragement to plans which they think possess merit, there is then some hope of effecting improvements. Mr. Deakin appears to entertain some doubts as to the strength of my apparatus. I will here shortly state, that the mode of construction I should prefer would be to have the whole of the outer case of masonry. For instance, the exterior diameter for two 15-ft. pumps would be 23 ft. in diameter—that is, the tank part would be 3 ft. thick, with an offset above the water line of 18 in.—leaving 18 in. for the thickness of the upper part of the case. The inside cylinder for supplying air to the interior of the gasometer would also be constructed of masonry, of 2 ft. in thickness: the top of the case would be planked. Sufficient space might be left inside, between the gasometer and wall, to walk round the pump; and, for the purpose of admitting light, one or two windows might be introduced, because the pressure, being slight, would admit of glass being used. The appearance of the ventilator would then be like two round houses, of 15 ft. in height, with flat roofs. It is evident such an apparatus would not cost more than two cottages for workmen. The gasometer pumps may be made at the colliery, and would, by means of a wooden beam, with connecting rods, be made to vibrate in a hollow core, attached to the top of the gasometer—so that no leakage could pass through the plank roof into the pumps. I would undertake to put up a ventilator of this sort for 550*l.*, including the steam-engine to work it; and these pumps would pass through a mine 70,000 cubic feet of air per minute. Mr. Deakin is correct in saying, there would be a leakage when the cover of the pit is raised by the waggon, but it would be only momentary, and, practically speaking, I believe of no importance; but this may be obviated by fixing a piece of plank tubing, a few feet in length, to the top of the pit—so that the platform, which brings the waggon up, may first enter, and so seal, the pit, before the frame lifts the cover.

If I can give this amount of ventilation, I do not doubt that Mr. Deakin will undertake to ventilate the 100 acres of goaf which he speaks of, with its air-ways and horse-ways passing through it. Mr. Deakin says, that the present mode of ventilation is "Nature's own law, aided by what man can afford." This is quite true; but so long as the moving power which causes the ventilation is effected by meteorological phenomena, it must remain defective. The force of the ventilation of a mine, when created by a large furnace, must vary like the power of a windmill which changes with every breath of wind.

Such a system cannot be called scientific or safe, when it has to contend with the following contingencies:—1. The leakage of poisonous gases from the goaf, when sudden barometrical depressions of the atmosphere take place.—2. The oozing out from the coal seam of the carburetted hydrogen gas, in quantities varying with the atmospheric pressure. Professor Ansted, in his lecture at King's College, is reported in your Journal to have stated, that four acres of a coal seam were ascertained to have yielded a quantity equal to 10,000 hogsheads per minute, which is equal to about 87,000 cubic feet per minute—sufficient, one would think, to render such a seam impracticable to work.—3. The mixture of this gas with the atmosphere—when in the proportion of 7 per cent., it is not explosive; at 10 per cent., it is, and remains highly so, till the mixture arrives at 25 per cent., when it ceases to be explosive. In the first example, there is too much atmospheric air; in the latter, too little. Now, when the atmosphere of a colliery is in either of these conditions, the workmen often have naked lights; and a sudden change in the density of the atmosphere may give, or take away, the quantity which would cause an explosion. I have often heard colliers deprecate more air for fear of an explosion. I believe it is agreed on all hands, that a command of abundance of ventilation is the safeguard against all the dangers. I can conceive no mode of effecting this, except through mechanical agency; and that must be the most perfect which passes through a mine the requisite quantity with the least possible resistance; and it appears to me, that my plan will effect this.

Swansea, Jan. 3. W. P. STRUVÉ.

PROFESSOR ANSTED ON THE WORKING OF COAL MINES.

SIR,—I very seldom trouble you with my opinion on what really practical miners are pleased to say with regard to the working or ventilating of colliery workings. It is only when such gentlemen as Dr. Jamieson, Prof. Ansted, and others, lecture on mineralogy, that my "peaceable vengeance" is called forth; because what they do presume to tell the public is so far from the truth, and so utterly void of common sense, that their ignorance must, and shall, by your consent, be dragged out into broad daylight. Why did not Dr. Jamieson answer the few plain questions I proposed to him, through your Journal, the other day—questions arising from his foolish writings? it seems he would rather not. Prof. Ansted is now trying his hand at lecturing on coal mines; he tells you that mining in the Staffordshire coal-field is conducted in such a slovenly manner that the coal is mostly got without any plan—the pillars being entirely left at the discretion of subordinate workmen. One reason of this neglect of system was, that the beds of coal were near the surface; if they had been deeper, the Staffordshire colliers must have worked the coal by some plan or other. Now, Sir, will no practical Staffordshire man respond to the learned professor, and point out the correctness of his assertions?—I should hope there was. The South Wales coal-works, he tells his hearers, are very imperfect, ventilation and all—indeed, he says, it could not be considered a system at all, the working plan consisting of little more than digging down to the coal, getting it out as quickly as possible, and letting the roof fall in; then dig another pit, and work that the same way: the evils resulting from this mode of working, he says, are—first, the upper seams are injured; secondly, there being no plans, a continual system of robbery is carried on—the latter being the effect of the comparative impunity which the system gave to the dishonest or ignorant; for the roof being allowed to fall in as soon as the coal was obtained, an examination was impossible; but when, after some time, the real owner of the property sunk a shaft, instead of coming to coal he came to fire-damp. So far, Professor Ansted, I do believe, has got his information from the Tower of London. I will tell you why I think so: about 30 years ago, I was examined on

lawsuit at Monmouth—"Osborne Yates *v.* the Earl of Abergavenny and others"—the action in dispute was the extent of a manorial right, part of which was mineral, and part not so; the Deputy-Recorder of London was in court with the records of the county of Monmouth, within which the disputed property was situated; those records were read in court, and proved the working of a mine in one of the parishes in dispute, in the reign of Edward I.—500 years gone by then—mentioning the place where such mines were then working. The moment the document was read, I knew the place; I had it turned over; the mine had been got exactly in the spot mentioned by the old records—there it had been got rather more workman-like; but in a neighbouring spot the mine had been got just in the same way that Prof. Ansted *tells sane men, and that seriously too*, that coal is now got in 1847, in South Wales, *as it was five centuries since*. It was got then as follows:—A pit was sunk from surface on the crop part of the mine down to the first vein, that was taken up the breadth only of the pit bottom, and then the pit left to fall in, and another sunk exactly the same.

I have been working by patching for the last 20 years, on the spot so operated upon by the ancient miners, upwards of 5 0 years ago. I have turned the mine measures over 10 yards deeper than the bottoms of the ancient men's pits, and found, in turning the top part over, a great number of such pits. Now, Sir, I do appeal to the audience, whoever they may have been (and his lecture was given, it appears, at King's College, London—never mind that), learned, or unlearned, if they are not now convinced, that the doctor obtained his information on the working of mines and coals in South Wales from the records in London, 500 years ago.

I wish the learned professor would pay this district a visit previous to renewing his lectures—I and my friend, Samuel B. Rogers, of Nant-y-glo, would soon so far enlighten him on the principles and practice of mining operations, as to enable him to render the information he imparts to his uninitiated students of really practical value; for, notwithstanding the strictures I have felt it my duty to make upon his lectures, I believe him to be a talented man.—THOMAS DEAKIN: *Blaenavon, Jan.* 2.

COMMUNICATION BETWEEN THE GUARD AND ENGINE-DRIVER OF A RAILWAY TRAIN.

SIR,—Notwithstanding the many scientific attempts that have been made to suggest something practically useful upon the above important subject, I am induced to communicate an idea that has occurred to me since the late providential escape from collision upon the Manchester and Liverpool Railway. A train, on its passage from Liverpool to Birmingham, on approaching the acute curve of the Warrington junction, was observed by the switch keeper to be coming at the rate of 40 miles per hour, instead of five or six, which is the speed ordered for that especial part. Judging that certain mischief would be the result of taking the turn with that speed, he promptly and praiseworthily determined to allow the switch to remain unturned, with the intention of signalising the train back again. Accordingly, the train bolted past towards Manchester at the rate of 40 miles per hour, and, in spite of his flags and signals, held on its space. The guard now saw that something was wrong; but, as he had no other means of communicating with the engine-driver, he scrambled over the tops of the carriages, at most imminent risk, till, at length, on reaching the engine, he discovered that both engineer and stoker were under gross intoxication. So considerable a time, therefore, had elapsed before he could arouse them to a sense of danger, that they had reached Patricroft, and were upon the point of running into a passenger train, which must have been attended with great loss of life, when matters were brought to a standstill. The perusal, therefore, of the above account has led me to the following reflection, as to a practical and effectual means of enabling the *guard of a passenger train to hold an immediate control over the steam valve of the engine*—viz.: 1. *Every carriage* top, *on the right-hand side*, to be fitted up with two small blocks.—2. Also a line, or chain, to be reaved through these blocks, and to be the length of the carriage, with *spare chain*, to meet the space between the carriages.—3. The end of each of these *chains* to be furnished with a *hook and eye*, by which they can be connected and disconnected at pleasure.—4. The guard to ride upon the last carriage of the train, which must always be fitted up with a small winch, around which the end of the rope is coiled.—5. The other end of the rope, or chain, to be attached to the handle or lever of the steam valve, so contrived that, when the guard turns his winch, the rope should immediately withdraw the steam from the engine, which would at once bring the train to a stand, as well as apprise the engine-driver that there was something wrong. In order to carry out the arrangements, the carriages must at each main terminus be so placed, that the *line leads up or down one specific side*; and, in attaching or detaching carriages, each carriage carries with it its own fittings in the same manner as it now carries its connecting chains. The above method would provide against the contingencies arising from intoxication of the driver, sudden illness, accidents by lightning, the engine-driver falling off, or abandoning the engine under the influence of sudden danger, &c. In short, I humbly submit, that a *quick and entire shutting-off of the steam* would be more generally effective, in preventing accident, than any expedient hitherto devised, and that, too, in the most simple and economical manner. MATTHIAS DUNN.

Newcastle-upon-Tyne, Jan. 6.

THE GEOMETRICAL RAILWAY SYSTEM.

SIR,—As a skilful and successful general surveys the battle-field, the scene of his late victory, and, after counting the loss sustained by his forces in men, arms, and the munitions of war, anxiously inquiring whether he has not too dearly purchased his laurels and trophies, exclaiming, perhaps, in grief, for the loss of so many "brave comrades in war"—"Another such victory, and I am ruined"—he wisely determines to conduct his next campaign with greater caution, and more attention to the safety of his troops. So an opportunity presents itself, in the general suspension of railway works, to review and reflect upon the stupendous achievements of the last 20 years—stupendous as regards the boldness and magnitude of these great undertakings, their effect on the social and commercial condition of the country, and the immense capital that has been invested in them. It would be vain to estimate the precise number of millions sterling which has been expended on those highways of iron—the tens of thousands of labourers and artizans that have been employed—the thousands of miles of railway that have been completed, or are still in progress, or for which Acts of Parliament have been obtained. The general reader would only be puzzled by the formidable array of figures; and such a recapitulation of statistical facts is not required for scientific and professional engineers, whose minds need only be directed to the subject, to enable them to recall the details to their recollection. Every one, nevertheless, must acknowledge the vast magnitude of the results; but the satisfaction experienced in contemplating these triumphs of engineering skill, is unhappily not without the alloy of bitter experience—that money, in large sums, has often been too lavishly expended, in the ardent and ill-considered haste with which these great works have been planned and executed—that *human labour* has been recklessly urged to its utmost limits of exertion, even to the destruction of life—that *engines, rails*, and *carriages*, innumerable have been constructed, and the great railway machines have been completed, and brought into operation with so many defects in the design and construction of their several parts, as to occasion, with fearful frequency, the greatest disasters, from the broken connection of trains with the lines of rail, or their rushing together in destructive collision—from the sinking of embankments, or the falling of bridges, or some other of the thousand-and-one accidents hitherto incidental to the management of railways. Standing, then, on the vantage ground of experience, whence we may review the past—its triumphs and its reverses—its pecuniary profit and loss—its deeds and its misdeeds—and look forward to the future with a serious determination, to "manage these things better"—we may properly inquire, whether greater economy ought not to be observed in the expenditure of capital, and greater scientific precision displayed in every department of railway engineering? Ought not the whole to be better systematised, and greater attention paid to the proper dependencies of the several parts upon each other? Leisure is the time for wholesome reflection. Let the present pause, then, be wisely employed in a careful revision of the entire system. Already the engineers are acknowledging one great error committed in the form of the rails, and in many places are attempting a partial reformation. I may instance the North-Western, the York and Newcastle, and some Belgian railways, where, under the direction of English engineers, *rails, nearly approximating to round*, are in the act of being laid down, on account of the *less degree of friction* they will occasion. Every advocate of the *Geometrical System*, which a year or two ago claimed the attention of the public, must rejoice in this silent, practical tribute to its truth. But why nibble at it in this clandestine and piecemeal manner? Why not at once adopt it in all its integrity and beautiful consistency? No scientific mechanic, or geometrician, can make himself master of its principles and details, without perceiving the truth and harmony of the theorem which it elaborates; and the time has now arrived, when it ought to be candidly and honestly acknowledged by the engineers, and generally applied for the public safety and convenience, not more than for the benefit of the holders of railway stock. Blink the question as they may, it must come to this at last; and I call on the engineers to do justice, without more delay to themselves, to their employers, and to the public, by adopting the only thoroughly scientific and well-digested system, that has hitherto been devised for the formation of the greatest works, in the execution of which their craft has ever been engaged. But if the engineers are determined, like their own wheels, to move on the same axis, and in the same circle, somewhat varied, it is true, by many wriggling, awkward, and devious oscillations, then should Parliament be urged to investigate the matter, and force them to pursue a safer, cheaper, and better course. I have not forgotten your courtesy, in finding a place in your valuable Journal, for my former communications; and hoping once more for a like favour, I remain, Sir, your obedient servant, G. M. T.

Jan. 3.

HEALTH OF TOWNS.

SIR,—While public attention is being attracted to the defective state of the sewerage and drainage of the metropolis, and other large cities, permit me to present some plans of easy and practical utility on the subject, which may be immediately carried into operation. The levels of most drains, from the insufficient fall in the land, do not promote a sufficient current to carry off the deposit. Most drains also have road dirt carried into them from the streets, the Macadamised roads, and highways. By directing the surface drains into distinct sewers, made for surface draining solely, the choking of the main drains would be partly avoided, and the awful stench that comes up from the street gratings, at every change of the barometer, would be avoided. Secondly, by applying mechanical power to raise the sewer waters of one level to a higher level, and by conducting such sewer waters through iron pipes to certain reservoirs, at a distance from inhabited houses, the suburbs of the metropolis could be rendered healthily drained at a very trifling expense; for the deposit of chemical ingredients in the manure, which would sink to the bottom, could be made applicable to agricultural purposes, supplying the place of costly manures—such as guano, bone dust, &c., and would sell at a price to pay the Sewer Commissioners a fair interest for their original outlay, together with current expenses. Sir, I see no necessity for all the drainage of the ancient Fleet-brook being carried into the Thames at Blackfriars-bridge, now that all its springs are devoted to the use of water companies. Why should not many of such drains be made to run backward towards the uninhabited portions of the suburbs? Moreover, most of the drains on the flat lands could be made to run outwards from the City and suburbs, and be deposited in reservoirs, covered over from the sun's rays, on certain waste spots. The cost of a steam-engine to work an everlasting chain of brushes (same as the machines for cleansing the roads and streets, now used by a patent company), up an incline, to raise the filth to 30 ft. high out of the present sewers, thence to be carried through iron pipes of 14 in. diameter to the reservoir, would be about 400*l.* per engine of 12-horse power, and would clear a locality of about, perhaps, 10,000 inhabitants, and yet leave the present drains in their present state to carry off the rain water of storms and thunder clouds. The reservoirs, by the addition of lime water, or other active chemical agents, would deposit the manure, and the water would run off pure into the original drains—leaving a chemical mass of deposit, in the shape of manure, to be carted off for the use of the agriculturist. As such reservoirs would assume the shape of a series of tan-pits, we must calculate the cost of 200*l.* for each reservoir, and the brick-work attached to the everlasting wheel would be 100*l.* more; to this must be added the cost of iron pipes, which cost would vary according to the distance of the locality in question, from certain definite uninhabited places round the metropolis, or other populous neighbourhood.—W. HUGHES, C.E.: *Clement's Inn, Jan.* 5.

THE LIGHTHOUSE ON THE GODWIN SANDS.

SIR,—Your correspondent, "Terro-Nauticus," appears not a little indignant at being considered a tyro by me and my friend Mr. J. De la Haye; but in his letter, in your last Journal, he has not advanced anything to prove himself otherwise than a *novice*, his criticism excepted; in that, however, he may indulge as long as he pleases, as I am but little affected by such attacks. Now, "Terro-Nauticus" states, that he has not penned one word in disparagement of my plan of operation; but in his former letter, he altogether condemns the principle, as being liable to be tossed about by every wind, and said that nothing could save the cylinder from destruction—I do not know what disparagement is, if this is not. "Terro-Nauticus" remarks—"it is evident that I did not understand the plan he suggested, and that I am one of those slovenly readers, who rush through a subject without thinking, and declaim against its author without consideration, or making himself at all acquainted with his intentions." Sir, I must confess, that it was a perfect mystery to me, how a treble row of piles could keep the water out of "Terro-Nauticus's" supposed "enclosure," unless each row was 6 ft. apart, as pointed out in my former communication, which "Terro-Nauticus," in order to extricate himself, has condescended to explain in the following, which he terms a "clear description"—namely: "the double row of piles, which I suggested (there might be occasion for three), should be 6 ft. apart." "At about every 10 ft. of the circumference, I would drive a cross row of piles between the two circles—thus forming compartments, which would facilitate the clearance of the sand, and filling in with concrete.

In examining this part of the suggestion, we shall find that the word "tyro" was not misapplied. It is evident that the sand between each row of piles could only be taken out by the "bag and spoon apparatus," as no power that could be there applied would be sufficient to pump the water out of the compartments, as the sand would completely stop the action of the pumps. Now, will "Terro-Nauticus" inform me the space required for the "bag and spoon" lever, crab, &c., to work in, to take out the sand (say) 30 ft. deep?—or, how he would get the above apparatus to work in his 10-ft. compartments? Again, if it could be taken out for a certain depth only, and the excavated space filled in with concrete, unless the cross rows of piles were again taken out (which must weaken the structure), the whole would only form a series of detached columns of concrete of 60 ft. area, as the concrete would only adhere to the iron for a short time in consequence of the oxidisation. "Terro-Nauticus" then inquires, what will Mr. Shepherd and Mr. De la Haye do with their monstrous cylinders, supposing there are several variations of levels on which it has to rest, of 2 ft. or 3 ft., or even 6 ft., or perhaps more, without saying a word about the difficulty of getting the cylinder to its destination?—Can a person, who boasts of experience, be so ignorant of the requisite preliminary investigation previous to the cylinder being floated to its intended site? If so, I will, with your permission, ease his inexperienced mind. I should get four wrought-iron piles, 1 ft. diameter, and 40 ft. in length, and also four lighters, each one fitted with an air-pump for sinking the piles, and likewise a small crane for raising them again—then, by merely running down the piles on the intended site for the lighthouse, I should at once ascertain precisely every variation of level the chalk formation presented.

I further beg to inform "Terro-Nauticus" that I should hesitate in sinking the cylinder on uneven or sloping ground; and not only should I subject the mere site of the lighthouse to this investigation, but I should ascertain precisely every variation of level the chalk formation presented for a distance of from 50 to 100 yards around the intended site—otherwise I may sink the cylinder on the brink of some chasm, which would not be very advisable. Now, Sir, with regard to the difficulty of getting the cylinder to its destination, I beg also to solve that difficulty, and about which "Terro-Nauticus" is so uneasy. The weight of the first section (including internal braces, external and attached piles) would be about 50 tons; this would be suspended between 4 lighters—thus 50 tons ÷ 4 boats=12 tons 10 cwts.—the weight to be borne by each lighter collectively; again, each lighter would be provided with two powerful crabs, in order to raise or lower the cylinders, as the case may require; the weight to be borne by each crab would be only 6 tons 5 cwts.; the whole, being floated at high water, would be towed by a steamer with the greatest facility—each lighter being provided with an exhausting receiver. All being in readiness, the first section cylinder would, in the short space of a few hours, be sunk into its resting place; the remaining sections would then be floated off, and, in a few hours more, the whole would be firmly screwed together, and thus a stage would at once be formed to commence the external pile driving. I presume, by having experienced workmen about me, the piles would be sunk as fast as they could be floated off. From the previous knowledge of each variation of the chalk, I should be in possession of every requisite length, and, by these means, get every hole drilled in the piles for the bracing on shore, as described in my previous communications. Now, Sir, let "Terro-Nauticus" refute this, if he can; and I further wish to inform him that, if he is a person of great experience, he certainly has, in my opinion, exhibited great ignorance in displaying his abilities. Notwithstanding my inattentive reading, I certainly have given his slovenly project and assertions infinitely more consideration than they deserve; and which I have not rushed over without consideration, nor yet declared against without giving my reasons. But a certain class of people, whose knowledge of cylinders does not extend beyond the most prescribed limits, appear terror-striken at a cylinder of 30 ft. diameter, with its vast capabilities, for the purpose of tunnels, bridges, foundations, &c.

Fleet-street, London, Jan. 4. GEORGE SHEPHERD, C.E.

PROPOSED CAST-IRON CELLULAR FOUNDATION FOR A LIGHT-HOUSE ON THE GODWIN SANDS.

SIR,—In reply to the observations of Mr. G. Shepherd, which appeared in your last, respecting the above, allow me to premise that, in my letter to you of the 11th Dec., I confined my attention *solely* to the development of a plan for the construction of a permanent *foundation* in the above situation. To the principle I then brought forward—that the foundation should be *firmly rooted into the rock itself*, and to the plan proposed for the effectual accomplishment of this desideratum, your correspondent has offered no objections. His remarks refer to the question of *superstructure* merely, with regard to which I have as yet said nothing. The consequence of this—the first error into which your correspondent has fallen—is the supposition, that I advise the erection of a beacon light; my statement, however, is simply "that, should such be decided upon," a 7-ft. pile, sunk in the method proposed by me, would be an ample and secure *foundation*. It will be observed, that I guarantee only the stability of the *foundation*—and so far from recommending the erection of a beacon light, I not only distinctly stated, that I did not consider such would be sufficient, but, moreover, advised, on the contrary, the erection of a lighthouse of a more extensive range—that is, of one not only presenting a more elevated light, but of sufficient solidity to withstand the utmost shocks to which it might be exposed, and of a capacity to afford requisite relief. I then also proceeded to detail a plan, whereby, still carrying out the principle of *rooting into the rock*, a permanent foundation could be provided, adequate to the secure support of such a superstructure.

I have also to correct a second error of your correspondent upon the cast-iron *foundation* proposed for the above; he has *presumed* that it was my intention to erect a *cast-iron superstructure*. By reference to my letter, he will find that my remarks, relative to the use of cast-iron in the proposed lighthouse, apply to the *foundation* only, where it could not be exposed to the alternate action of the sea and atmosphere. The influence of the marine salts on cast-iron, constantly submerged, is but trifling; presuming the contrary, however, there are simple means for protecting the cast-iron from their deleterious action. In order, likewise, to prevent future misapprehension respecting the material for the superstructure, I would propose its being of durable stone, and built somewhat on the model of the Eddystone Lighthouse.

I trust your correspondent will find the above explanations satisfactory; and, in conclusion, allow me to repeat the principal engineering advantages, which I consider attach to the proposed plan for a foundation on the Godwin Sands. I would first remark the ease and certainty of its construction, from requiring only comparatively light and simple temporary apparatus—from each separate part forming an addition thoroughly complete in itself—and from the being able, on a sudden emergency, to leave the work without the least fear of danger or injury to it. Secondly, its vast superiority to any other construction for the resistance of the forces to which it must be exposed, either downward pressure, lateral thrusts, or upheaving tendencies—the whole being one compact dovetailed mass of the strongest cellular construction, not merely founded on, but *firmly notched into, the rock*, and, previously to its removal, requiring the entire dislocation of the chalk bed in which it is founded; and, lastly, the superior hold presented by its surface, either for dovetailing or bolting down the superstructure to it, so as to make one united mass from top to bottom.—M.: *Wolverhampton, Jan.* 4.

LIGHTHOUSES ON THE GODWIN SANDS—SUBMARINE RAILWAYS.

RESPECTED FRIEND,—"Terro-Nauticus" seems to imagine that, because his suggestions were given with "the best of feelings," no one had a right to criticise their correctness; but I cannot see that his having penned them at a period when the serenity of his mind was not disturbed, can add to their value; and, in spite of his edifying assertions to the contrary, it seems that my remarks have caused an explosion in his amiable temper, as if a blow had fallen on a barrel of gun-cotton. My plan for constructing a lighthouse on the Godwin Sands is, of course, worthless; but is just what might have been expected from the inventor of wrought-iron tunnels. My pretty little manageable wrought iron cylinder (which would weigh 160 tons) is all of a piece with my submarine railway. Precisely so, *and the pretty little manageable wrought-iron railway tunnel* now being constructed at the Menai Straits, in divisions weighing 1200 tons each, is "all of a piece" with the two; but as this last modification of my plan has been brought out by an "eminent engineer," he will, probably, suppress the sneer, and permit his organ of veneration to be excited, in contemplating the work. Perhaps "Terro-Nauticus" will also have a higher opinion of gigantic works, after being informed that the eminent engineer alluded to, on being asked before a committee of the House of Commons, if it would be possible to bore a tunnel under the Alps, replied—"Yes, under the world; it is a question of pounds, shillings, and pence." I suppose he meant that he would bore a tunnel from New York to Pekin, with branches to Iceland and the Cape; and, of course, to bore a tunnel under the bed of the Channel, from Dover to Calais, as proposed 10 years ago by Brunel, would be a mere play for him, provided he was furnished with the requisite number of pounds, shillings, and pence. Now, I beg to submit that I have not proposed to bore under the world; but have simply proposed to tunnel the water of a channel 100,000 ft. wide, or about 100 times the width of the Menai Straits, as a safer and more economical plan than boring through sand, rock, and chalk; this invention, of course, has some faults—it is not sufficiently Lilliputian to be within the compass of every tyro's brains—and, consequently, it is in their eyes the result of ignorance. I do not, however, forget that there are many individuals, who, without a single scientific argument, are in the habit of trying to make their sophistry pass for profound reasoning. As "Terro-Nauticus" does not comprehend how a cylinder of 100 feet or 200 ft. in diameter could be conveyed on the Godwin Sands, I will endeavour to enlighten him on the subject; this cylinder might be carried in a dozen pieces, each piece being furnished with flanges—so that the whole might be bolted together in a few hours; and, should the sand be higher on one side than the other, I would drive one side of the cylinder in the sand, before striking on the other side—so that it would be soon in a perfectly horizontal position; I hope this is sufficiently intelligible. Should it be deemed advisable to strengthen the cylinder by means of tubes, they might be fastened all round the cylinder, before sinking it in the sand; by exhausting the air from all the tubes simultaneously, they would descend at once with the cylinder, and I have no doubt but the pretty little cylinder would be very easily managed by those means, although it is probable that "Terro-Nauticus" would fancy himself in a wilderness, were he in the centre.—JOHN DE LA HAYE: *Liverpool, 1st mo.* 5.

CANALS VERSUS RAILWAYS.

We have before us a well-written pamphlet on this subject, from the pen of Mr. Boyle, of Wolverhampton, in which amalgamation of canals with railways are shown to be injurious to a greater number of interests than at first sight would appear. The public in general, canal proprietors, and even railway proprietors themselves, are shown to be intimately concerned in the matter, and the complete and permanent restoration of canal property is proposed to be accomplished through means of a union of the owners and senders of goods, by which the whole carrying operations of the kingdom are systematised, and both railways and canals reduced to a position of complete responsibility to the merchants and manufacturers, who originate the traffic by which these establishments exist.

Not the least remarkable feature of the proposed plan, and from which it derives much of its utility and importance, is the introduction of a new means of propelling, the invention of Mr. Simpson, of Henrietta-street, Covent garden.

Our space will not at present allow us to go fully into the details of this propeller, nor is this of so much consequence, as a reference to the pamphlet, where it is fully explained and illustrated with engravings, will supply the information, and we shall take a future opportunity of illustrating it ourselves.

Viewing the whole matter generally, we do not hesitate to pronounce it to be worthy of the deepest consideration of both railway and canal proprietors, and the public in general will judge from the following paragraph, with which the pamphlet concludes, how deeply the matter concerns the vital interests of the mercantile community:—"A long-felt desideratum is thus proposed to be supplied to the public; no less than the means of rendering amenable the characteristic independence of the railways; and of arousing into life and activity the latent energies of the canals. The plan is offered in the full confidence that its merits are obvious and indisputable, and that the intelligence of the classes, to which it principally appeals, will not be slow to discern and acknowledge them. Its general object is to ensure for the commerce of the kingdom that which the reduction of the postage did for its correspondence—namely, the greatest practicable facilities of transmission."

MANUFACTURE OF CHARCOAL.

[Specification of patent granted to Bondy Azulay, of Rotherhithe, in the county of Surrey, printer, and Abraham Solomons, of the city of London, merchant, for certain improvements in the manufacture of charcoal and other fuel.]—*Newton's Journal.*

This invention relates, firstly, to the manufacture of charcoal. In the ordinary method of manufacturing charcoal there is always considerable waste, caused by the breakage of the charcoal. The patentee reduces the waste portions, if necessary, to a finer state of powder; and then compresses the same, by an hydraulic press or other apparatus, in moulds, until the mass is reduced to from one-fifth to one-eighth of its original bulk. The block of fuel, when taken out of the mould, will be hard and solid, and, in a given size, will contain more combustible matter than can be found in an ordinary specimen of charcoal—for this reason, the patentee considers that it will be a very useful fuel for steam vessels and locomotiive engines, saving room in the bunkers and tenders. The second part of the invention consists in manufacturing fuel of small coal, breeze, coke, and cinders, with or without charcoal, by pulverizing the whole, if necessary, and then compressing the powder into blocks of a suitable size. The third part of the invention consists in the manufacture of a fuel adapted for lighting fires. The patentees mix charcoal powder, small coal, breeze, coke, and cinders (all or any of them), with tar, pitch, resin, or other suitable inflammable substance, and compress the mixture in moulds; when taken from the mould, the block is dipped in tar, pitch, resin, or other suitable inflammable substance; and it may then be covered with saw-dust and wrapped in waste paper—a block so prepared will readily ignite on the application of a lighted match. The patentees claim—firstly, the manufacture of solid blocks of charcoal from the small pieces or dust produced in the ordinary mode of making charcoal. Secondly, the manufacture of a fuel by compressing charcoal dust mixed with small coal, coke dust, cinders, and breeze, or with one or any number of the above-named substances. Thirdly, the combining a fire-lighter with fuel in the manner above described.

OVERARCH SUSPENSION BRIDGE.—This bridge is so constructed, that the roadway runs under the arch, and is connected to it by suspending rods, which are so disposed, that a large portion of the arch sustains a small portion of the roadway, thus enabling the bridge to bear a concentration of weight at any point. The main rods of the arch lean against each other at the centre (where the key-stone of a stone bridge is situated), giving mutual support, which is continued towards each end of the arch by circular extenders, enlarging as they approach the piers. The pressure of the main rods against each other is thus turned to the utmost advantage, and gives the greatest stability possible; and from this construction the lee-side will resist a gale of wind with the full power of the arch. The model is 20 in. in length, on the scale of 10 ft. to an inch. The entire weight of iron is 6 ozs., and it safely bears a load of 56 lbs.—nearly 150 times its own weight.—Mr. MILNE: *Scottish Society of Arts.*

ON THE METHOD OF SEPARATING COBALT FROM MANGANESE, PROPOSED BY BARRESWIL.—A short time since M. Barreswil proposed a very simple method of separating these two metals, by adding carbonate of baryta to the solution containing them, and then passing sulphuretted hydrogen into it. The author, before employing it, wished to ascertain whether in reality no manganese would be precipitated, as stated by M. Barreswil, and mixed for this purpose solutions of the protochlorid and of the protosulphate of manganese with pure carbonate of baryta, and passed sulphuretted hydrogen into them. It was found that nearly the whole of the manganese was precipitated, and the filtered alkaline liquid became turbid on heating to boiling, and contained now not a trace of manganese. This is readily explained by the behaviour of carbonate of baryta towards sulphuretted hydrogen. When a current of this gas is passed into water containing carbonate of baryta, in suspension, a portion of it is decomposed in the same way as the alkaline carbonates, and the liquid contains a considerable quantity of baryta in solution, partly in the form of carbonate dissolved in carbonic acid, partly as hydrosulphuret of barium and hyposulphite of baryta. The very alkaline liquid is rendered turbid by boiling, with separation of carbonate of baryta, and on evaporation to half its volume constantly disengages sulphuretted hydrogen; upon the addition of muriatic acid, this gas and carbonic acid escape, and the liquid is rendered turbid by sulphur; sulphuric acid indicates the presence of a large amount of barytic salts. It is to be hoped that when M. Barreswil next imagines a method, he will test its correctness before publishing it.—A. STRECKER: *Liebig's Annalen.*

NEWTON'S IMPROVEMENTS IN WHEELS.

Patent dated June 29, 1847. Patentee, Mr. E. Newton. Invention communicated from abroad. Specification enrolled December 29, 1847.]—*Mechanics' Magazine.*

The present invention is stated to consist in a peculiar method of casting iron wheels for locomotive engines and railway carriages, and to have for its object the uniform cooling of the various parts of the casting, and thereby to avoid fracture from irregular chilling. The patentee observes, that soon after the advantages of iron wheels with chilled peripheries and flanches were established, the difficulty of casting them in one piece was ascertained. The rim was found to cool sooner than those parts which connect it to the "hub" (commonly called nave), and then to shrink in cooling, and either break, or become so weakened as to break, on being subjected to a strain or jar. Various methods of overcoming this difficulty have been suggested—such as the employment of a "slit hub" formed of segments, bound together by iron hoops, and bending the arms or spokes, to allow of their shrinking. The form of the connecting parts of the wheel which the patentee prefers, is that of a simple disc; and his mode of chilling the rim, flanch, and connecting parts, consists in employing a mould of metal, instead of sand, as heretofore, so that the metallic surfaces of the mould shall come in contact with the surfaces of the casting. In practice it has been found necessary to chill only one surface of the disc; and in that case, the top portion of metal is replaced by sand, made in the usual manner.

MALLEABLE IRON RAILWAY CHAIRS.—Mr. Robb, of Haddington, submitted to the Royal Scottish Society of Arts, a model and description of a malleable iron railway chair, the advantages of which he stated to be, greater strength, and thus giving additional security in passing sharp curves; the rails would fit much better from the chairs being all cut true to the pattern, thus securing a uniform bearing to the head of the rails; the superior manner in which the wooden keys will fit, and with less rigidity. Mr. Robb thinks they could be made cheaper than cast-iron chairs, and that they would be stronger, although one-half lighter, whereby a saving in cost of carriage would be effected to an extent of 50 per cent.

IRON TRADE IN AMERICA.—A correspondent of the *Birmingham Journal*, writing from New York, says—"As regards the iron trade, I have very little to communicate that will be interesting to your readers. All may be summed up in a general way, by saying that the desire for investing capital in the manufacture of iron has not in the least abated, that the demand in all the ports on the sea-board is quite equal to the supply, and indeed is greater, here and in Philadelphia. The celebrated Mount Savage Iron-Works, which have been so long talked of, have at length been sold by the sheriff for a trifle over $200,000. The purchasers are two gentlemen of Albany, in this state, and a Mr. J. M. Forbes, of Massachusetts. They will immediately be put in operation, and, with the change of proprietors, there will be a change of name; henceforth the company will be called the "Lulworth Iron Company." They are already incorporated under the Act of Incorporation, passed by the last Legislature of Pennsylvania.

The ironmasters' quarterly meetings will take place next week, as follows:—On Tuesday, at Walsall; Wednesday, at Wolverhampton; Thursday, at Birmingham; Friday, at Stourbridge; and on Saturday, at Dudley. The coal and limemasters' quarterly meeting will be held at Stourport, on Monday, Jan. 17.

CALEDONIAN RAILWAY.—The inspection of this line, previous to the opening, commenced on Thursday morning by Capt. Simmons, R.E., Government inspector, accompanied by Mr. Collester, resident engineer, Mr. Sinclair, locomotive superintendent, and the several assistant engineers. They passed over the whole of the Edinburgh line to Carstairs, from thence along the line towards Glasgow to the Junction with the Wishaw and Coltness Railway at Garlongill, and along the latter railway to Motherwell. The inspection was resumed yesterday morning, from Carstairs southwards, along the main line to Beattock, from whence Capt. Simmons would proceed to London, and make his report. From the state of the line, it is hoped that the inspector's report will be favourable. Some days, however, must elapse before it can be known to the officials of the company. The sanction from the Railway Commissioners is, therefore, now all that intervenes to prevent the directors from naming a day for the opening.—*Scotsman* of Saturday.

ABORTIVE SCHEMES.—The holders of allotment letters by purchase—a practice to which many thousands of persons were victims in 1845—are wholly powerless as the law now stands, having no right to sue at common law as an original allottee has. A short clause in the Railway Act would be a great measure of *justice*; but a demonstration seems necessary. Let some holder advertise for fellow-sufferers to communicate with him, and sanction a representation to the Railway Commissioners for relief. Such a representation of 15,000 or 20,000 persons, with capital locked up to the amount of some millions, must make an impression, and create a feeling in favour of relief.—*Railway Record.*

DISCOVERY OF COPPER ORE AT LOCHWINNOCH.—The discovery of copper ore in this country must be considered an epoch in her history, whether we take into account the mass of new light which it throws on that most interesting field of science—geology—or the increased wealth which it must necessarily create, and the increased demand for labour, following the establishment of extensive works of that kind. The history of the copper mines at present at work on the estate of Kaim, in the parish of Lochwinnoch, is short, and may prove interesting to the scientific world, as well as the general public—we, therefore, cheerfully append the following facts:—About 15 years ago, the proprietor of Kaim, Wm. Orr, Esq., observed, while surveying his grounds, evident signs of the existence of copper ore. The discovery, as was natural, caused some little interest in the neighbourhood at the time, such appearances never having been observed in that quarter before—never, in fact, having been dreamt of. The matter, however, went to rest for nearly 14 years, until the autumn of 1846, when it was again revived; and having reached the ears of an English company, parties were sent down by them, for the purpose of inspecting the nature and appearance of the ground. The investigation was followed by a settlement betwixt the company and Mr. Orr, and workmen have, for some time back, been engaged in digging the treasure. The result has realised the most sanguine hopes of the projectors. Already two lodes of the ore have been struck, and, according to the divining-rod, 15 have been discovered—one of the lodes being not less than 22 in. in thickness. We have the authority of two eminent geologists, for saying that the ore is much better, in many important respects, than ever seen in Cornwall. In some places the ore is found only 3 ft. below the surface. Breaking-mills are in the course of erection, for the purpose of breaking down the ore. When operations are fairly commenced, and the mills are set a-going, which will be in spring, a great number of workmen will be employed on these works. This new branch of trade will tend to give a fresh impulse, and infuse new life into the already-thriving and prosperous village of Lochwinnoch, and not only so, the whole country will assuredly be the better for it.—*Renfrewshire Advertiser.*

THE PROPOSED TAX ON GAS.—A lecture on this subject was delivered at the Mechanics' Institute, on Tuesday evening, by Mr. T. Remirol, gas engineer. The lecturer, at the outset, entered into a detail of the process of its manufacture and of its origin, as well as of the various improvements which have brought it to its present comparative cheapness, and its national importance. The number of gas-works in Great Britain he estimated at between 500 and 600. Referring, with intimate practical knowledge, to the means by which the use of gas might be very largely increased in towns, the lecturer adduced, as an instance of success in this direction, the small town of Dorchester, the gas company of which for 12 years had not increased its consumption by more than 200 jets. In 1845, a suggestion by the manager was adopted, of contracting for the supply of the pipes and burners, charging the consumers a per centage for the same. In a very short time the company received a great accession of customers; and the result had been that, in a place containing only some 3000 inhabitants, there are now no fewer than 1450 gas jets, the very poorest inhabitants having their kitchens lighted with gas. He saw no reason why, by the same means, the same result might not be achieved in every other town, large or small. The charge for gas in Manchester was now below 4l English towns. The corporation supplied 10,000 customers with the article, and had laid 110,000 miles of street mains. But this great consumption was nothing to what it should be for a town with so large a population. The town of Dundee has a population of 100,000, about one-third that of Manchester, and yet Dundee had 10,100 consumers—outnumbering Manchester. In fact, it is only the wealthy in this town that have gas in their houses. In the small towns and villages of Scotland it was different, most of the working classes having their kitchen burner. This need not be a long desideratum in Manchester, for the apparatus could be fitted into every working man's dwelling-house for about 10s., and a kitchen light would not cost more than 8s. a-year, or 1¾d. weekly, which, if collected with the weekly charge for rent, would save them a large amount in the course of a year. Alluding to the flaming advertisements once put forward by Mr. Winsor, of London, projecting a great central gas establishment, which should supply the whole kingdom by pipes laid under ground, the lecturer said, that after all, the idea was within the range of possibility; and, not long ago, Lord Morpeth had made an announcement in the House of Commons, when introducing his Health of Towns Bill, that he desired to see carried out a scheme of a gas works in a central part, where coals were cheap, to supply London with gas—thus saving the expense of conveying the coals to London, and keeping the manufacture of the article out of the crowded city; for they could as easily carry gas a distance of many miles as they could water. The capital sunk in the manufacture of gas is not less than 12,000,000l., of which 3,000,000l. are invested in London alone. The lecturer then came to the question of the proposed duty on gas, which he said had been suggested to Government by Mr. Fitzgerland, of London. The duty proposed was 1s. for every thousand cubic feet of gas manufactured. In Manchester the inhabitants paid 5s. for every 1000 cubic feet of gas—so that on every 250l. of income, the gas committee would, under this tax, have to pay 50l. to Government, being about from a fourth to a fifth of the profits. The tax in London would realise about 150,000l.; in Birmingham, 17,000l.; and in Manchester, 15,000l. The companies would either pay the tax out of their profits, or they would raise the price of the article to consumers. The Manchester corporation made a profit annually of 27,000l., the bulk of which went to improve the town. The inevitable result of this duty would be that every one will be curtailing his gas expenditure. Was this a project that ought to be submitted to? No. He thought the time had gone past when such a tax could be laid on with safety. Government must let well alone. He called upon Manchester to resist this attempt to destroy the free trade in gas which was doing so much for the people of this country. They must have no excise man in the gas-work: 1,500,000 of the population were now depending for their living on this manufacture, and their means of living were not to be sacrificed, and a manufacture, the progress of which was simultaneous with the improvement of the people, to be stopped by any such an iniquitous tax. In Manchester, besides the corporation, many private parties made gas for their own use, and if 3000l. were put down for them, the tax for Manchester would be 18,000l. He concluded by advising the formation of an Anti-Gas-Tax League. The audience was a limited one, owing to its being Christmas week.—*Manchester Examiner*

MEETINGS OF PUBLIC COMPANIES DURING THE WEEK.

TUESDAY.....Colonial Banking Company—London Tavern, at Twelve.
WEDNESDAY...Phœnix Gas-Light and Coke Co.—Bridge-house Hotel, Twelve for One.
Alliance Marine Assurance Company—offices, at One.
Nister Dale Iron Company—offices, at One.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

THE LONDON DOCKS.—On Friday, the half-yearly meeting of this company took place at the Dock House, Princes-street, Bank, for the purpose of declaring a dividend, and on other matters.—JOHN CATLEY, Esq., presided.—The report stated, that the number of loaded ships from foreign parts, which entered the London Docks during the six months ending the 30th of November, was 998, measuring 260,792 tons. The amount of earnings for the same period was 229,144l. 5s. 4d. The income exceeded the expenditure by 96,272l. 9s. 11d., out of which the directors recommended the payment of a dividend of 2l. 10s. per cent. for the half-year. The balance standing to the credit of profit and loss was 187,094l. 9s. 2d. The report, after some discussion, was adopted, and the meeting adjourned.

THE LONDON JOINT-STOCK BANK.—On Thursday, an extraordinary general meeting of this company was held at the bank in Princess-street, for the election of a director.—WILLIAM SHADBOLT, Esq., in the chair.—He submitted the names of Mr. Valentine Knight, Mr. W. Blount, and Mr. Henry Grace, as candidates for the office.—Mr. KNIGHT said that, on the last occasion, he polled nearly 1600 votes; and he issued a circular, stating his intention of coming forward at the next vacancy. He had felt it his duty to keep that pledge; but as he had since found that the ground had been pre-occupied by his honourable opponent, and although that number had been very largely exceeded, he still felt that it was not in proportion to that which that gentleman could bring forward on this occasion. He was much obliged for the support he had received, but begged to say that he did not intend to go to the ballot.—Mr. BLOUNT expressed a similar intention.—The CHAIRMAN said, his only duty now was to submit the name of Henry Grace, Esq., to fill the office of director.—The motion was seconded, and agreed to unanimously, when the meeting adjourned.

RAILWAY ALARUM COMMUNICATOR.—Mr. Moffat proposes to accomplish this object by a tube sunk in the roof of each carriage, and to connect these are tubes of India-rubber with screws. Insi le the tube is a wire, and attached to it, inside of each compartment of the carriage, are bell-pulls, or knobs. At each guard's seat are bells and knockers, and the same at the driver's, fixed near the engine. A passenger wishing to give a signal, pulls the knob, by which means the whole bells are rung. The tube can also act as a speaking-trumpet, mouth-pieces being inserted in each compartment, and the same to the guards and drivers—so that a passenger, having rung the bell, communicates to the guard and driver, &c., his reason for so doing.

RAILWAY BILLS.—Friday last was the last day for depositing petitions for private bills for the ensuing session: 234 bills are brought in—of which 129 are railway bills, and thus divided—Pritt and Co., 44; Dorrington and Co., 19; Dyson and Co., 18; Dean and Co., 8; Graham and Co., 7; Webster, 7; Law, 6; Lang, 6; Gregory and Co., 3; Jones and Walmesley, 2; Bryden, 2; Dunlop, Toogood, Richardson and Co., Fearon, Bell, Nash, and Brown, 1 each: 30 are bills standing over from last session, under the standing order for suspensions. Only one is by a new company, the rest being by existing companies for extensions or amendments.

GIRDER BRIDGES ON RAILWAYS.—The Railway Commissioners have, in reply to the inquiries of Sir. E. Walker and Sir J. Jervis, as to whether, consequent on the late accident at the Dee Bridge on the Chester and Holyhead line, they intended to make any report on the conditions to be observed in the application of iron to railway structures, replied, that "the Commissioners for inquiring into the conditions to be observed in the application of iron to railway structures, are engaged in preparing experiments to enable them to arrive at satisfactory conclusions on the subject of their inquiry before making their report. With respect to the girder bridges on the Trent Valley line, some of them are of similar construction, but of smaller dimensions, than the Dee Bridge at Chester, and these have all been strengthened to the satisfaction of the inspecting officer of the Commissioners."

PREPARATIONS FOR A RAILWAY STATION IN WATERLOO BRIDGE-ROAD.—Yesterday the work of demolition was commenced upon a range of houses in the Waterloo Bridge-road, commencing at the Hero of Waterloo Tavern, and extending to within a few yards of the New-cut. These have been ordered to be razed for the purpose of erecting the metropolitan station for the South-Western Railway, the works in connection with which will be commenced forthwith. The station will be of immense dimensions, with a magnificent facade. It is calculated that the whole line and station will be completed early in August next.

RAILWAY SWITCHES.—Mr. Nicoll, of Arbroath, has suggested an improvement in railway switches. He proposes to place them on iron chairs, so constructed as to move along with the switch, whereby the motion of the switch is not prevented, by its getting jammed with dust or rubbish; and the chairs, from their peculiar form, push aside the dust, and clear a way for the switch. Mr. Nicoll also gives a description of the apparatus for opening and closing the switch, so as to prevent accidents by the motion of them by unauthorised persons.

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